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14. ABSTRACT Hill Air Force Base (AFB) proposes to construct a new emergency power unit overhaul complex at Little Mountain Test Annex, Utah. Buildings 2005 and 2006 would be demolished on Hill AFB. The findings of this EA indicate that the proposed action would not have significant adverse effects on the human environment or any of the environmental resources as described in the EA. Therefore, it is concluded that a Finding of No Significant Impact is justified.					
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Hill Air Force Base, Utah

Final

**Environmental Assessment:
Proposed Emergency Power Unit Overhaul
Complex at Little Mountain Test Annex,
Utah**

March 14, 2014

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Proposed Emergency Power Unit Overhaul
Complex at Little Mountain Test Annex, Utah**

**Contract No. FA8201-09-D-0002
Delivery Order No. 0054**

**Department of the Air Force
Air Force Materiel Command
Hill Air Force Base, Utah 84056**

March 14, 2014

Prepared in accordance with the Department of the Air Force Environmental Impact Analysis Process (EIAP) 32 CFR Part 989, Effective July 6, 1999, which implements the National Environmental Policy Act (NEPA), the President's Council on Environmental Quality (CEQ) regulations.

EXECUTIVE SUMMARY

Purpose and Need

The purpose of the proposed action is to provide safe facilities in which emergency power units (EPUs) would be overhauled for the F-16 fighter aircraft. The F-16 EPU overhaul operations, which are currently being conducted on Hill Air Force Base (AFB) in a location that violates United States Air Force (USAF) explosive safety standards, must be relocated.

Selection Criteria

The EPU overhaul complex should:

- comply with explosive safety requirements,
- establish a 300-foot buffer zone,
- not conflict with the Hill AFB General Plan, and
- comply with federal, state, and local environmental regulations.

Scope of Review

The issues that were identified for detailed consideration are: air quality, solid and hazardous wastes (including liquid waste streams), biological resources, and water quality.

Alternatives Considered in Detail

Alternative A (No Action Alternative) - Under the no action alternative, a new EPU overhaul complex would not be constructed, and safe facilities would not be provided. The existing facilities would operate as they currently exist.

Alternative B (Proposed Action - Construct a New EPU Overhaul Complex at Little Mountain Test Annex [LMTA]) - The proposed action would include:

- Four buildings with structural steel frames and masonry walls, reinforced concrete footings, foundations and floor slabs, mechanical and electrical systems, water and fire protection systems, and communications networks. One building to contain a boiler. Separation between buildings would be at least 300 feet. The total footprint of structures would be 25,950 square feet.
- Associated pavements and connections to adjacent buried utilities.

In addition to constructing a new EPU overhaul complex, Buildings 2005 and 2006 would be demolished on Hill AFB in support of USAF's physical plant strategy, which calls for reducing net facility footprint by 20 percent between 2006 and 2020 by demolishing surplus and inefficient facilities.

Alternative C (Construct a New EPU Overhaul Complex South of the LMTA Access Road) - The only difference between Alternative C and the proposed action would be its location.

Results of the Environmental Assessment

Three alternatives were considered in detail. The results of the environmental assessment are summarized in the following table.

Summary of Predicted Environmental Effects

Issue	Alternative A No Action	Alternative B Proposed Action	Alternative C Construct South of LMTA Access Road
Air Quality	Existing degreasing operations emit four tons per year of volatile organic compounds, but would be greatly reduced if dipping operations change to wiping.	Qualified asbestos abatement contractors would prevent impacts to air quality. Construction equipment would create temporary emissions. Fugitive dust would be controlled. Degreasing operations would emit four tons per year of volatile organic compounds, or much less if wiping were to be implemented. Additional commuting and delivery vehicle emissions would exist. Sub-structure vapor barriers would protect indoor air quality. Conformity with the Clean Air Act was demonstrated.	Same as for the proposed action.
Solid and Hazardous Waste	Regulated solid wastes and regulated liquids are treated and/or disposed in accordance with applicable regulations.	If contaminated building materials, soils or pavements are identified, they would be properly handled during the demolition and construction process. EPU overhaul activities would generate the same types of waste as the existing facilities.	Same as for the proposed action.
Biological Resources	The 20-acre vacant site would remain in its current, somewhat degraded condition	Mule deer and rodents would be displaced. Management for loss of habitat would be accomplished by improving adjacent habitat uphill (north) of the proposed action.	Same as for the proposed action.
Water Quality	Good housekeeping measures and other best management practices are being followed.	During construction and operations, water quality would be protected by implementing stormwater management practices. Precipitation from the 95th percentile, 24 hour storm event would be retained on site. Contamination of shallow groundwater may exist beneath portions of the proposed action. If groundwater or saturated soils were to be contacted, activities would be halted and Hill AFB remedial managers would be contacted. Good housekeeping measures and other best management practices would be incorporated into facility design and operations.	Same as for the proposed action.

Identification of the Preferred Alternative

Hill AFB prefers Alternative B (the proposed action).

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LIST OF ACRONYMS AND CHEMICAL TERMS

AFB	Air Force Base
AFCEE	Air Force Center for Environmental Excellence
AFMAN	Air Force Manual
AFOSH	Air Force Occupational Safety and Health
AICUZ	Air Installation Compatible Use Zone
BTU	British Thermal Unit
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWA	Clean Water Act
DAQ	Division of Air Quality (Utah)
DOD	Department of Defense
DRMO	Defense Reutilization and Marketing Office
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EPA	Environmental Protection Agency (United States)
EPU	Emergency Power Unit
FQI	Floristic Quality Index
ft ²	Square Feet
HAP	Hazardous Air Pollutant
HWCF	Hazardous Waste Control Facility
IDT	Interdisciplinary Team
IWTP	Industrial Wastewater Treatment Plant
LBP	Lead Based Paint
LMTA	Little Mountain Test Annex
MAMS	Missile and Munitions Storage
MBTA	Migratory Bird Treaty Act
MILCON	Military Construction

MMSCF	Million Standard Cubic Feet
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO _x	Oxides of Nitrogen
NRHP	National Register of Historic Places
O ₃	Ozone
OSHA	Occupational Safety and Health Administration
PCB	Polychlorinated Biphenyl
PM-10	Particulates Smaller Than 10 Microns in Diameter
PM-2.5	Particulates Smaller Than 2.5 Microns in Diameter
ppm	Parts Per Million
RCRA	Resource Conservation and Recovery Act
RHI	Range Health Index
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO ₂	Sulfur Dioxide
SO _x	Oxides of Sulfur
SPCC	Spill Prevention Control and Countermeasures
SWPPP	Stormwater Pollution Prevention Plan
TCLP	Toxicity Characteristic Leaching Procedure
UAC	Utah Administrative Code
UGS	Utah Geological Survey
USAF	United States Air Force
USC	United States Code
VOC	Volatile Organic Compound
WCI	Wildlife Community Index

1 PURPOSE OF AND NEED FOR ACTION

1.1 Introduction

Hill Air Force Base (AFB) is located approximately seven miles south of downtown Ogden, Utah (Figure 1). The base lies primarily in northern Davis County with a small portion located in southern Weber County. Little Mountain Test Annex (LMTA) is a 740 acre facility managed by Hill AFB, located approximately 15 miles west of Ogden, Utah, (Weber County) on the eastern shore of the Great Salt Lake (Figure 1). Research and development activities associated with rocket motor propellants are some of the activities conducted at LMTA.

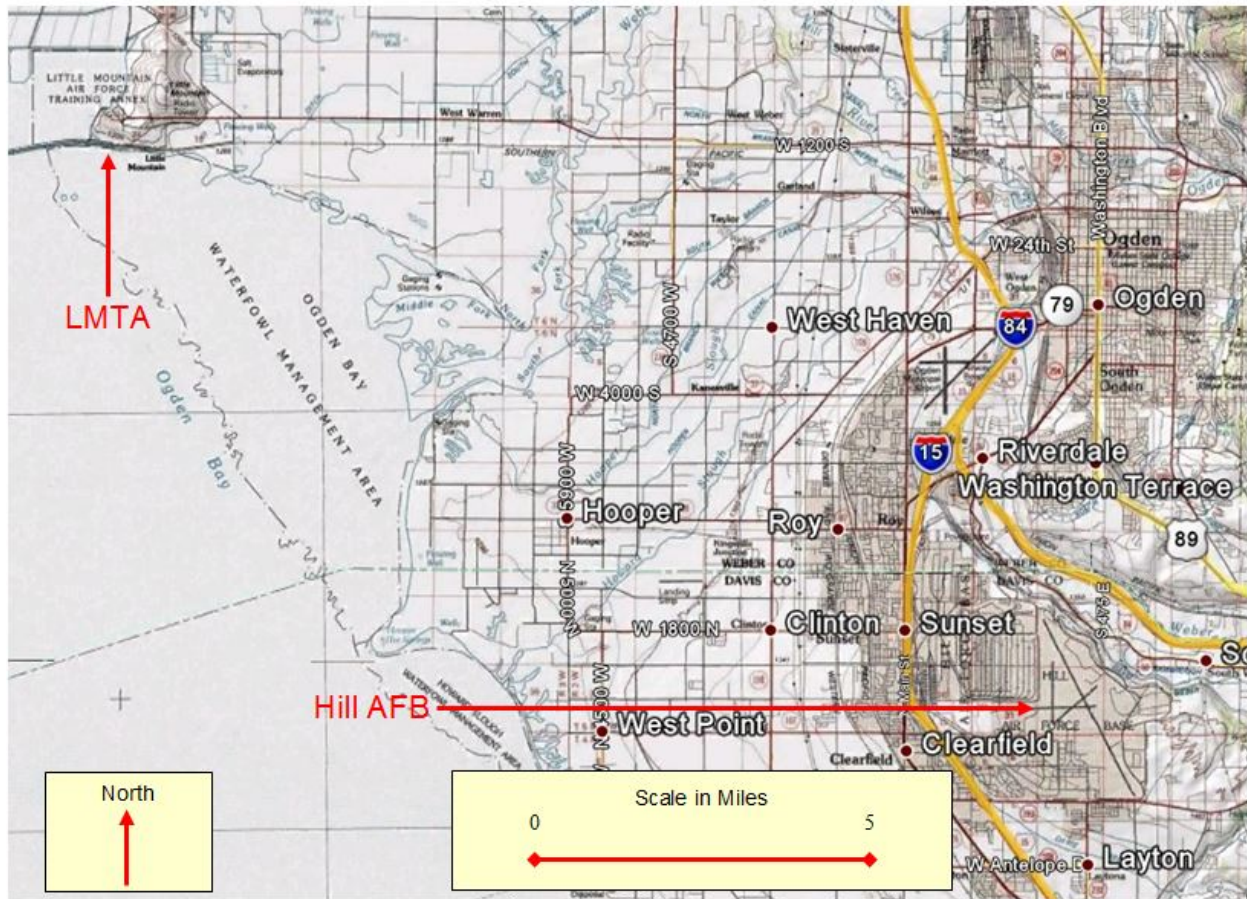


Figure 1: Location of Hill AFB and LMTA

The Aircraft Maintenance Support Squadron (309 MXSS) provides depot repair, modification and maintenance of the F-16 fighter aircraft, including the overhaul of the emergency power unit (EPU), a device needed to provide emergency power to the F-16 in case of in-flight failure of the primary systems. Each EPU is powered by hydrazine.

1.2 Proposed Action

The proposed action is to provide an EPU overhaul complex at LMTA. The complex would consist of four separate buildings including the main overhaul facility, a test facility, a hydrazine storage facility, and a neutralization chemical storage facility. In addition to constructing a new EPU overhaul complex, Buildings 2005 and 2006 would be demolished on Hill AFB in support of the United States Air Force's (USAF's) physical plant strategy, which calls for reducing net facility footprint by 20 percent between 2006 and 2020 (USAF 2009) by demolishing surplus and inefficient facilities.

1.3 Need for the Action

F-16 EPU overhaul operations are currently being conducted on Hill AFB in Buildings 2005, 2006, 2013, and 2024, which are all located in the Missile and Munitions Storage (MAMS) II area. When F-16 EPU overhaul operations began in 1985, there were no safety standards prohibiting these activities from taking place at this location. USAF explosive safety standards now prohibit non-explosive activities, such as the F-16 EPU overhaul operations, from being conducted in an explosive land use zone, such as the MAMS II area. To achieve compliance with the current explosive safety standards presented in Air Force Manual (AFMAN) 91-201 (USAF 2011), the F-16 EPU overhaul operations must be relocated from the MAMS II area to a non-explosive zone.

Demolition of the existing EPU overhaul facilities would support Hill AFB in complying with existing Air Force policy to reduce by 20 percent the Air Force physical plant that requires funds, by 2020 (USAF 2009).

1.4 Purpose of the Proposed Action

The purpose of the proposed action is to provide safe facilities for overhaul of EPUs for the F-16 fighter aircraft.

1.5 Relevant EISs, EAs, Laws, Regulations, Plans, and Other Documents

No relevant environmental impact statements (EISs) or environmental assessments (EAs) were identified.

The following federal, state, and local laws and regulations would apply to the proposed action:

- The National Environmental Policy Act (NEPA), Title 42 of the United States Code (USC) Section 4321 *et seq.*
- Council on Environmental Quality NEPA regulations, Title 40 of the Code of Federal Regulations (CFR) Parts 1500-1508.
- USAF-specific NEPA requirements contained in 32 CFR Part 989, Environmental Impact Analysis Process (EIAP).

- Safety guidelines of the Occupational Safety and Health Administration (OSHA).
- Relevant Air Force Occupational Safety and Health (AFOSH) standards.
- Utah's fugitive emissions and fugitive dust rules (Utah Administrative Code [UAC] Section R307-309).
- Utah's State Implementation Plan (SIP [UAC Section R307-110]), which complies with the General Conformity Rule of the Clean Air Act (CAA), Section 176 (c).
- Determining Conformity of Federal Actions to State or Federal Implementation Plans, 40 CFR Part 93.154.
- USAF *Conformity Guide*, 1995.
- USAF Demolition Policy, 2009.
- Utah Asbestos Rules, UAC, Section R307-801.
- The Resource Conservation and Recovery Act (RCRA), 42 USC Chapter 82, and regulations promulgated thereunder, 40 CFR Part 260 *et seq.*
- Federal facility agreement dated April 10, 1991, under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 42 USC Section 9601 *et seq.*
- Air Force Instruction 32-7086 (Hill AFB Supplement), *Hazardous Material Management*, 2006.
- Utah hazardous waste management regulations contained in UAC Section R315, and the Hill AFB *Hazardous Waste Management Plan* dated May, 2001, and subsequent versions.
- The Clean Water Act (CWA), 33 USC Section 1251 *et seq.*, and Utah statutes and regulations promulgated thereunder.
- The Energy Independence and Security Act (EISA) of 2007, Public Law No. 110-140, Sec. 438, Stormwater Runoff Requirements for Federal Development Projects.
- The Hill AFB *Stormwater Management Program - Municipal Stormwater Permit*, dated August, 2011, and subsequent versions.
- Migratory Bird Treaty Act (MBTA), 16 USC Sections 703-712 *et seq.*
- Bald and Golden Eagle Protection Act, 16 USC Sections 668-668c *et seq.*
- The National Historic Preservation Act (NHPA) of 1966, as amended 16 USC Section 470 *et seq.*

Four Hill AFB resource management plans apply to the proposed action:

- The Hill AFB *Integrated Cultural Resources Management Plan* (Hill 2007a) and subsequent versions.
- The Hill AFB *Integrated Natural Resources Management Plan* (Hill 2007b) and subsequent versions.
- *Spill Prevention Control and Countermeasures (SPCC) Plan for Hill Air Force Base* (Hill 2012a).
- *Hill AFB General Plan* (Hill 2012b).

During the scoping process, no other documents were identified as being relevant to the proposed action.

1.6 Decisions That Must Be Made

Hill AFB must decide which of the following alternatives to implement:

- Not construct a new EPU overhaul complex (no action), or
- Construct a new EPU overhaul complex (proposed action).
- If a new EPU overhaul complex is constructed, then a location must be selected (see Section 2.2).

1.7 Scope of this Environmental Analysis

The scope of the environmental analysis is to consider issues related to the proposed action and the reasonable alternatives identified within this document.

1.7.1 History of the Planning and Scoping Process

Scoping discussions were conducted by the 75th Civil Engineering Group, Environmental Quality Branch (75 CEG/CENE). Participants in the EIAP Interdisciplinary Team (IDT) included proponents of the proposed action, the EIAP manager, resource managers, and the authors of this document. A scoping meeting was conducted at Building 5, Hill AFB, on September 9, 2013. During the scoping process, the EIAP/IDT considered and addressed the following issues:

- air quality;
- solid and hazardous wastes (including liquid waste streams);
- biological resources;
- geology and surface soils;

- water quality;
- cultural resources;
- occupational safety and health;
- air installation compatible use zone (AICUZ); and
- socioeconomic resources.

1.7.2 Issues Studied in Detail

The issues that have been identified for detailed consideration and are therefore presented in Sections 3 and 4 are:

Air Quality (attainment status, emissions, Utah's SIP)

Buildings 2005 and 2006, which may contain asbestos, would be demolished as part of the proposed action. For the purposes of this document, if the word construction is used by itself, any potential demolition activities are included.

Air emissions would be produced by construction equipment. Operating the proposed action would create air emissions. Air quality effects are discussed in Section 4 of this document.

Solid and Hazardous Wastes (materials to be used, stored, recycled, or disposed, including liquid waste streams; existing asbestos, lead-based paint [LBP], mercury, and polychlorinated biphenyls [PCBs])

During construction activities, solid wastes would be generated, and other hazardous wastes might be generated that would require proper treatment and/or disposal. Additional hazardous wastes could be generated if a spill of fuel, lubricants, or construction-related chemicals were to occur. Operating the proposed action would create solid and hazardous wastes.

Effects related to solid and hazardous wastes are discussed in Section 4 of this document.

Biological Resources (flora and fauna including threatened, endangered, and sensitive species; wetlands; floodplains)

Approximately 20 acres of undeveloped land would be disturbed by the proposed EPU overhaul complex. Effects related to biological resources are discussed in Section 4 of this document.

The scoping discussions did not identify any issues related to wetlands or floodplains.

Water Quality (surface water, groundwater, water quantity, wellhead protection zones)

Based on information provided by Hill AFB, the land area to be disturbed would be approximately 20 acres in size. The proposed action would be subject to stormwater permit and compliance requirements both during the construction period and during operations.

Contamination of shallow groundwater may exist beneath portions of the proposed action. Potential contact with contaminated shallow groundwater by drilling crews is addressed in Section 4 of this document.

Liquid waste streams created during construction and operations are included in the discussions related to solid and hazardous wastes (Section 4 of this document).

The scoping discussions did not identify any issues related to water quantity or wellhead protection zones.

1.7.3 Issues Eliminated From Further Study

The issues that were not carried forward for detailed consideration in Sections 3 and 4 are:

Geology and Surface Soils (seismicity, topography, minerals, geothermal resources, land disturbance, known pre-existing contamination)

The scoping discussions did not identify any issues related to seismicity, topography, minerals, or geothermal resources.

Excavations would be necessary to install: footings; foundations; hazardous spill containment pits; pavements; and buried utilities consisting of water, electricity, telephone/data, and storm drains. Discussions related to preventing soil erosion (stormwater pollution prevention) are addressed under water quality effects (Section 4 of this document).

Contamination of shallow soil is not known to exist in the vicinity of the proposed action. Potential discovery of suspicious soils during excavation is addressed under solid and hazardous wastes (Section 4 of this document).

Cultural Resources (archaeological, architectural, traditional cultural properties)

Cultural resources are any place, site, building, structure object, or collection of these that was built or used by people. Some cultural resources, such as traditional cultural properties and sacred sites, may be a place without any visible evidence of human use or modification.

Four previous inventories have comprised cultural resources surveys of 848 acres at LMTA (the 731 acres owned by Hill AFB and additional acres occupied by easement). No cultural resources were identified. The 20-acre parcel that would be affected by the proposed action was inventoried for cultural resources in 1991 (Arkush 1992) with no findings recorded. Given the lack of previous findings, the potential for historic properties is extremely low. However, if any such properties are found during construction, ground-disturbing activities in the immediate vicinity will cease, the Hill AFB cultural resources program manager will be notified, and unanticipated discovery of archaeological deposits procedures will be implemented with direction from the Hill AFB cultural resources program manager in accordance with Standard Operating Procedure 5 in the Hill AFB *Integrated Cultural Resources Management Plan* (Hill 2007a).

Building 2005 has been determined ineligible for listing in the National Register of Historic Places (NRHP) due to loss of integrity. The Utah State Historic Preservation Office (SHPO) concurred with this determination in April, 2008.

Building 2006 was constructed in 1942 and is considered eligible for listing on the NRHP due to its association with World War II. However, it has been previously mitigated through a memorandum of agreement between the USAF and the Utah SHPO, signed in 2005 (Hill 2005).

The proposed action and associated demolitions have been determined to have no adverse effect to historic properties. The Utah SHPO concurred with this determination on December 24, 2013 (Appendix A). Hill AFB initiated a formal consultation process with 20 American Indian Tribes regarding the proposed action. Two responses, with no objections noted were received (Appendix B).

Occupational Safety and Health (physical and chemical hazards, radiation, explosives, bird and wildlife hazards to aircraft)

Throughout the construction phase of the project, Hill AFB contractors would follow OSHA safety guidelines as presented in the CFR. Hazardous materials that could be used during construction are included in the discussions related to solid and hazardous wastes (Section 4 of this document).

Related to Hill AFB military personnel and civilian employees, the Bio-environmental Engineering Flight (75 AMDS/SGPB) is responsible for implementing AFOSH standards. The AFOSH program addresses (partial list): hazard abatement, hazard communication, training, personal protective equipment and other controls to ensure that occupational exposures to hazardous agents do not adversely affect health and safety, and acquisition of new systems.

The scoping discussions did not identify any issues related to occupational safety and health that would not be routinely addressed by OSHA rules and/or the Bio-engineering Flight.

AICUZ (noise, accident potential, airfield encroachment)

The scoping discussions did not identify any issues related to noise, aircraft accident potential, or airfield encroachment.

Socioeconomic Resources (local fiscal effects including employment, population projections, and schools)

Temporary opportunities would exist for local construction workers if the proposed action is constructed. Operating the proposed action would not be expected to create additional jobs at Hill AFB or LMTA. The scoping discussions did not identify any issues related to population projections or schools.

1.8 Applicable Permits, Licenses, and Other Coordination Requirements

Obtaining, modifying, and/or complying with the following permits would be required to implement the proposed action.

- The Hill AFB Title V Operating Permit (Permit Number: 1100007001, and subsequent versions). See Section 4.2.1 for additional details.
- Utah's Stormwater General Permit for Construction Activities permit number UTR300000, dated July 1, 2008, and subsequent versions. See Section 4.2.4 for additional details.

The proponents would coordinate with the Hill AFB hazardous materials program manager (75 CEG/CENE) to discuss hazardous materials brought on base to construct and operate the proposed action. See Section 4.2.2 for additional details.

2.0 ALTERNATIVES, INCLUDING THE PROPOSED ACTION

2.1 Introduction

This section describes each of the alternatives considered. It documents the process used to develop the alternatives and lists the selection criteria. It presents a comparison matrix of the predicted achievement of project objectives for each of the various alternatives. This section also identifies the Air Force's preferred alternative.

2.2 Description of Alternatives

2.2.1 Alternative A: No Action

Under the no action alternative, a new EPU overhaul complex would not be constructed, and safe facilities would not be provided. F-16 EPU overhaul workers continue to be exposed to explosive hazards, violating current explosive safety standards presented in AFMAN 91-201 (USAF 2011). For an undetermined period of time, the existing facilities would operate as they are currently configured. However, military construction (MILCON) documents indicate continued non-compliance would result in deficiency findings, possible fines, and ultimately, mission termination. Neither the needs in Section 1.3 nor the purposes in Section 1.4 would be satisfied.

2.2.2 Alternative B: Proposed Action - Construct EPU Overhaul Complex

The boundary of the proposed action is shown in Figure 2.



Figure 2: Boundary of Proposed Facilities and Pavements

The proposed EPU overhaul complex would provide safe facilities equipped with specialized equipment for workers who are trained to perform highly technical activities. The complex would consist of four separate buildings including the main overhaul facility, a test facility, a hydrazine storage facility, and a neutralization chemical storage facility.

MILCON project data indicate proposed EPU overhaul complex would consist of:

- Four buildings with structural steel frames and masonry walls, reinforced concrete footings, foundations and floor slabs, hazardous spill containment pits, mechanical and electrical systems, water and fire protection systems, and communications networks. Separation between buildings would be at least 300 feet. The total footprint of these four structures would be 24,450 square feet.
- A 1,500 square foot building to contain a natural-gas fired boiler to be used for space heating.
- Associated pavements and connections to adjacent buried utilities.

In addition to constructing a new EPU overhaul complex, Buildings 2005 and 2006 would be demolished on Hill AFB in support of USAF's physical plant strategy, which calls for reducing net facility footprint by 20 percent between 2006 and 2020 (USAF 2009) by demolishing surplus and inefficient facilities (Figure 3).



Figure 3: Location of Proposed Demolitions on Hill AFB

2.2.3 Alternative C: Construct EPU Overhaul Complex South of the LMTA Access Road

The only difference between Alternative C and the proposed action would be its location (Figure 4), adjacent to but south of the proposed action.



Figure 4: Location of Alternative C

2.2.4 Alternative D: Construct a New EPU Overhaul Complex On Hill AFB

Hill AFB planners and engineers considered locations for constructing a new EPU overhaul complex on Hill AFB. Due to the chemical and physical properties of hydrazine (toxic if inhaled, extremely destructive to the tissue of the mucous membranes and upper respiratory tract, vapor can accumulate to form explosive concentrations), Hill AFB requires a 300-foot buffer zone around hydrazine storage, handling, and operations. A location north of the Hill AFB golf course was evaluated, but the required 300-foot buffer zone could not be achieved in relation to existing structures and security training areas. No location in the Hill AFB industrial use zone to the west of the airfield would provide a 300-foot buffer zone.

2.3 Process Used to Develop the Alternatives

As discussed in Sections 1.2, 1.3, and 1.4, Hill AFB proposes to provide a new EPU overhaul complex. The proposed facilities would address the needs discussed in Section 1.3 and the purposes stated in Section 1.4.

Hill AFB planners, engineers, and Facility Working Group explored other alternatives. The feasibility of developing other locations was compared to the selection criteria. The option to take no action was also considered.

2.3.1 Alternative Selection Criteria

The selection criteria presented below were created in compliance with guidance published by the Air Force Center for Environmental Excellence (AFCEE 2005). AFCEE stated that selection criteria are used to develop alternatives and to evaluate whether or not a particular alternative is reasonable. The two types of criteria discussed are:

Functional Criteria - Functional criteria describe the capabilities or characteristics that must be present in the proposed action and all action alternatives to meet the project objectives. For example, a functional criterion for a project to build an engine repair facility might be that it is located no further than 1.5 miles from the hangar where the aircraft engines are removed.

Environmental Criteria - These criteria focus on regulatory concerns. The proposed action and all other action alternatives must meet federal, state, and local environmental regulations.

If an alternative is developed that does not meet the minimum functional and environmental criteria, it is not considered a reasonable alternative.

Based on the above AFCEE guidance and project-specific MILCON documents, the following selection criteria were used to develop the proposed action and alternatives. The EPU overhaul complex should:

- Comply with explosive safety requirements.

As stated above, USAF explosive safety standards prohibit non-explosive activities, such as the F-16 EPU overhaul operations, from being conducted in an explosive land use zone, such as the MAMS II area. This is a functional criterion.

- Establish a 300-foot buffer zone.

As stated above, due to the chemical and physical properties of hydrazine, Hill AFB requires a 300-foot buffer zone around hydrazine storage, handling, and operations. This is a functional criterion.

- Not conflict with the *Hill AFB General Plan*.

The *Hill AFB General Plan* (Hill 2012b) dictates development zones applicable to maintaining facilities and building new structures on the base. The EPU overhaul operations should occur within an industrial zone. Segregating these land uses prevents conflicts with warehouses, explosive clear zones, offices, commercial space, and residences. It provides a buffer between industrial and other land uses, and it promotes the safety of military personnel and their children, civilian employees, contractors, and base visitors. This is a functional criterion.

- Comply with federal, state, and local environmental regulations.

This is a standard environmental criterion for all Hill AFB actions.

2.3.2 Alternatives Eliminated From Detailed Consideration

In addition to the proposed action, three additional alternatives were identified. The alternative to construct a new EPU overhaul complex on Hill AFB (Alternative D) was eliminated due to not meeting the selection criteria.

Alternative D: Construct a New EPU Overhaul Complex On Hill AFB

USAF planners evaluated locations for constructing a new EPU overhaul complex on Hill AFB. A location north of the Hill AFB golf course was evaluated, but the required 300-foot buffer zone could not be achieved in relation to existing structures and security training areas. No location in the Hill AFB industrial use zone to the west of the airfield would provide a 300-foot buffer zone.

2.4 Summary Comparison of the Alternatives and Predicted Achievement of the Project Objectives

2.4.1 Summary Comparison of Project Alternatives

The no action alternative (Alternative A) would be to continue current operations using the existing facilities. Considering implementation of Alternatives A, B, C, and D, only Alternative B (the proposed action) and Alternative C (construct a new EPU overhaul complex south of the LMTA access road) would fully satisfy the purposes as stated in Section 1.4 and the selection criteria from Section 2.3.1.

2.4.2 Predicted Achievement of Project Objectives

	Alternatives from Section 2.2			
	A No Action	B Proposed Action	C Construct South of LMTA Access Road	C Construct on Hill AFB
Purpose of the Proposed Action from Section 1.4				
Provide safe EPU overhaul facilities	No	Yes	Yes	Yes
Selection Criteria from Section 2.3.1				
Comply with explosive safety requirements	No	Yes	Yes	Yes
Establish a 300-foot buffer zone	No	Yes	Yes	No
Not conflict with the <i>Hill AFB General Plan</i>	Yes	Yes	Yes	Yes
Comply with federal, state, and local environmental regulations	Yes	Yes	Yes	Yes

Table 1: Predicted Achievement of Project Objectives

2.5 Identification of the Preferred Alternative

Hill AFB prefers Alternative B (the proposed action).

3.0 AFFECTED ENVIRONMENT

3.1 Introduction

Section 3 of this document discusses the existing conditions of the potentially affected environment, establishing a resource baseline against which the effects of the various alternatives can be evaluated. It presents relevant facilities and operations, environmental issues, pre-existing environmental factors, and existing cumulative effects due to human activities in the vicinity of the proposed action or the alternative locations.

Issues discussed during scoping meetings, but eliminated from detailed consideration (see Section 1.7.3) include:

- biological resources (flora and fauna including threatened, endangered, sensitive species; wetlands; floodplains);
- geology and surface soils (seismicity, topography, minerals, geothermal resources, land disturbance, known pre-existing contamination);
- cultural resources (archaeological, architectural, traditional cultural properties);
- occupational safety and health (physical and chemical hazards, radiation, explosives, bird and wildlife hazards to aircraft);
- AICUZ (noise, accident potential, airfield encroachment); and
- socioeconomic resources (local fiscal effects including employment, population projections, and schools).

3.2 Description of Relevant Facilities and Operations

As stated above, the existing facilities do not comply with current USAF explosive safety standards, which now prohibit non-explosive activities, such as the F-16 EPU overhaul operations, from being conducted in an explosive land use zone, such as the MAMS II area. No other relevant facilities or operations were identified.

3.3 Description of Relevant Affected Issues

3.3.1 Air Quality

LMTA is located in Weber County, Utah. Weber County is not in complete attainment status with federal clean air standards. Compared to federal clean air standards, Utah's Division of Air Quality (DAQ) reports five non-attainment and/or maintenance area designations (Figures 5-9 [DAQ 2013]) in the vicinity of LMTA and Hill AFB. Non-attainment areas fail to meet national ambient air quality standards (NAAQS) for one or more of the criteria pollutants: oxides of nitrogen (NO_x), sulfur dioxide (SO₂), ozone (O₃), particulates less than 10 microns in diameter (PM-10), particulates less than 2.5 microns in diameter (PM-2.5), carbon monoxide (CO), and

lead. Maintenance areas were once designated as non-attainment, but are now consistently meeting the NAAQS.



Figure 5: State of Utah Areas of Non-Attainment for PM-10

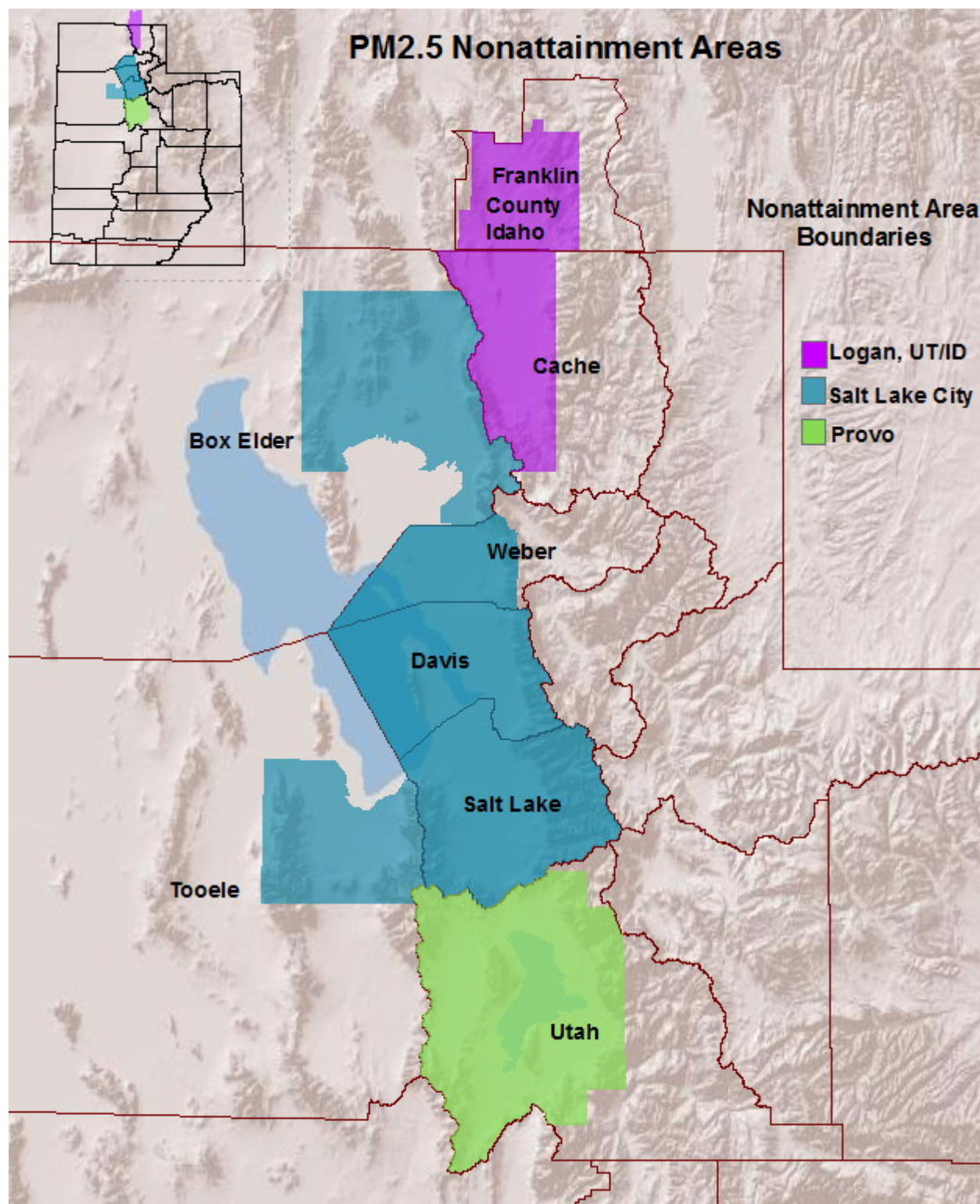


Figure 6: State of Utah Areas of Non-Attainment for PM-2.5

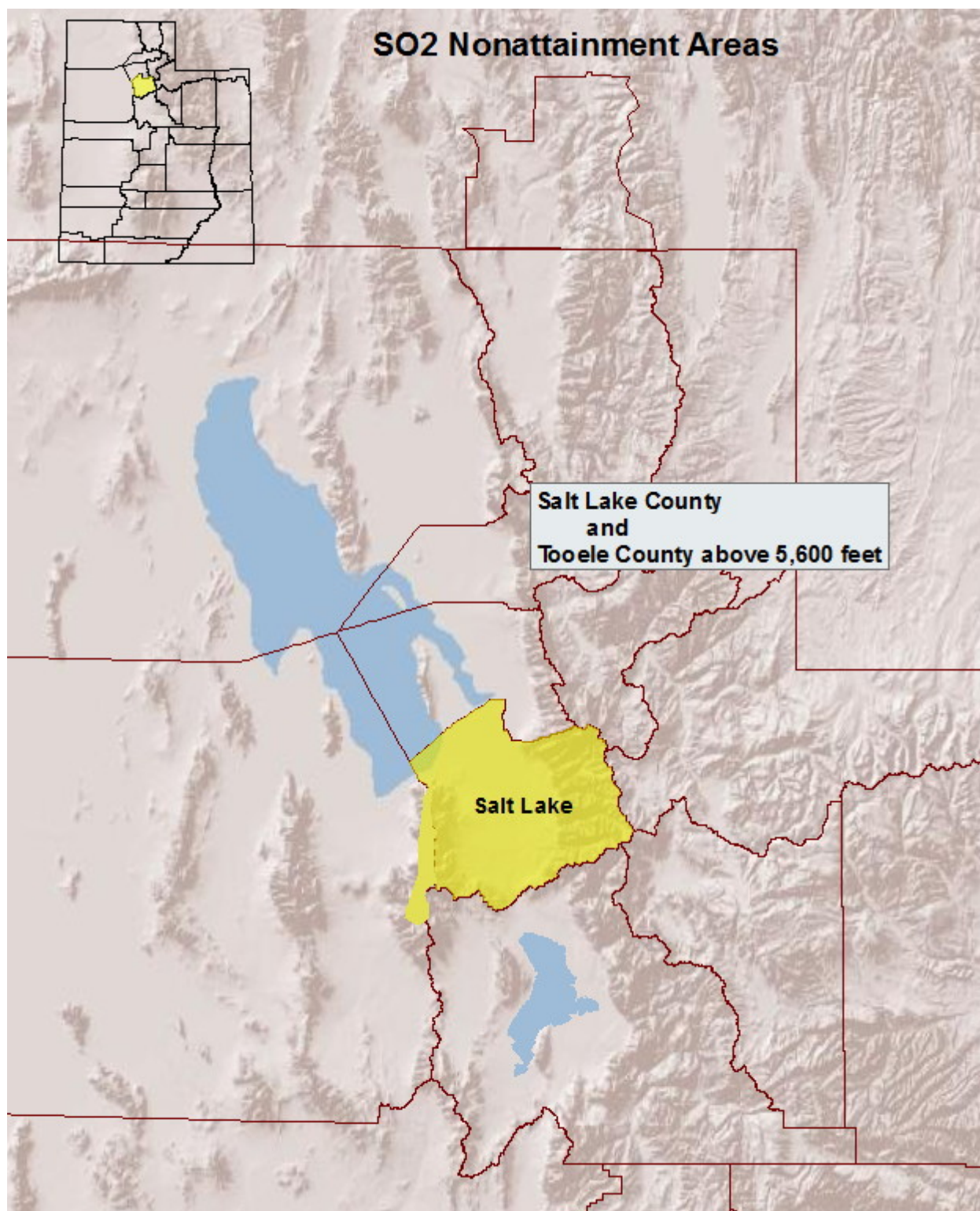


Figure 7: State of Utah Areas of Non-Attainment for SO₂

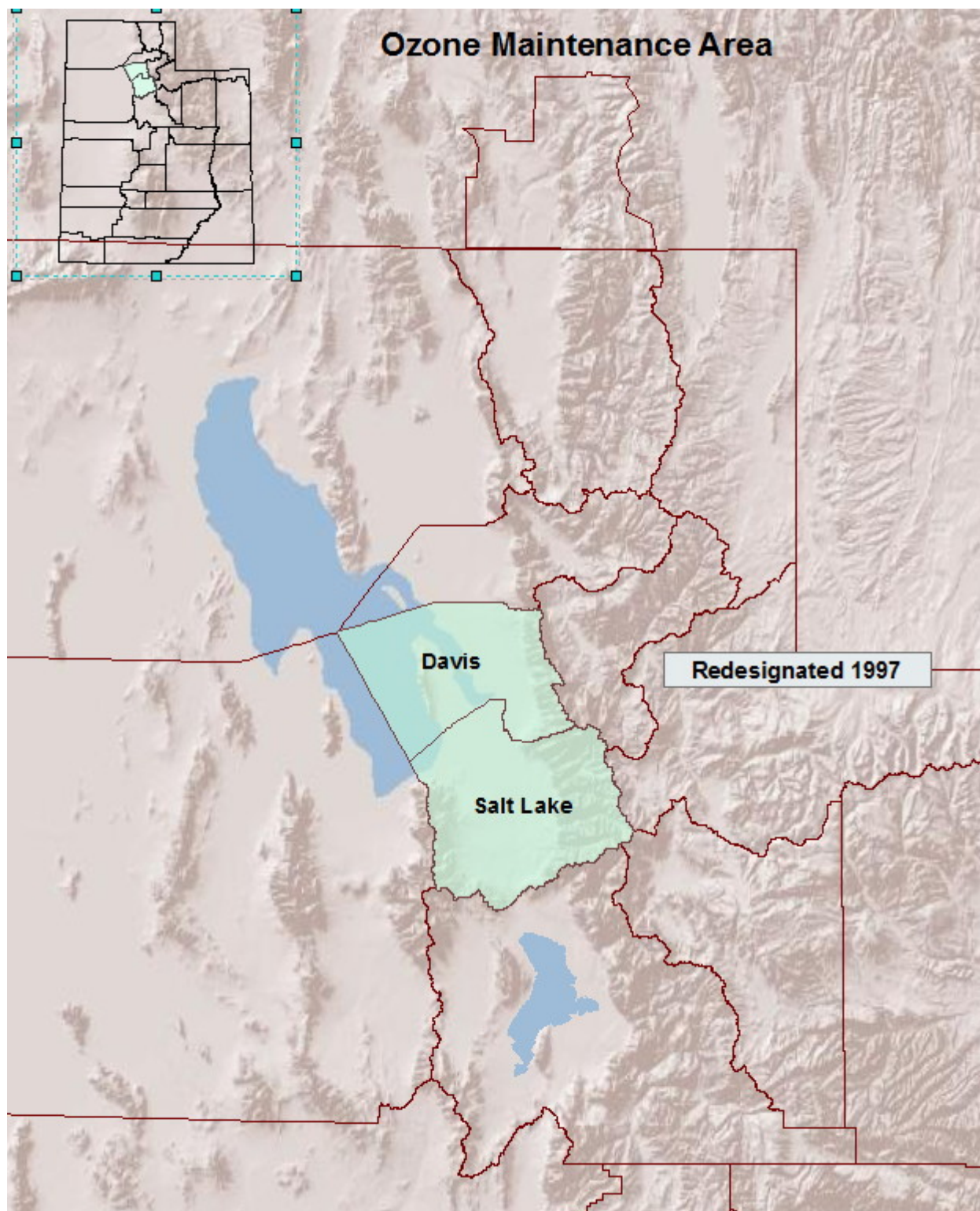


Figure 8: State of Utah Maintenance Areas for Ozone

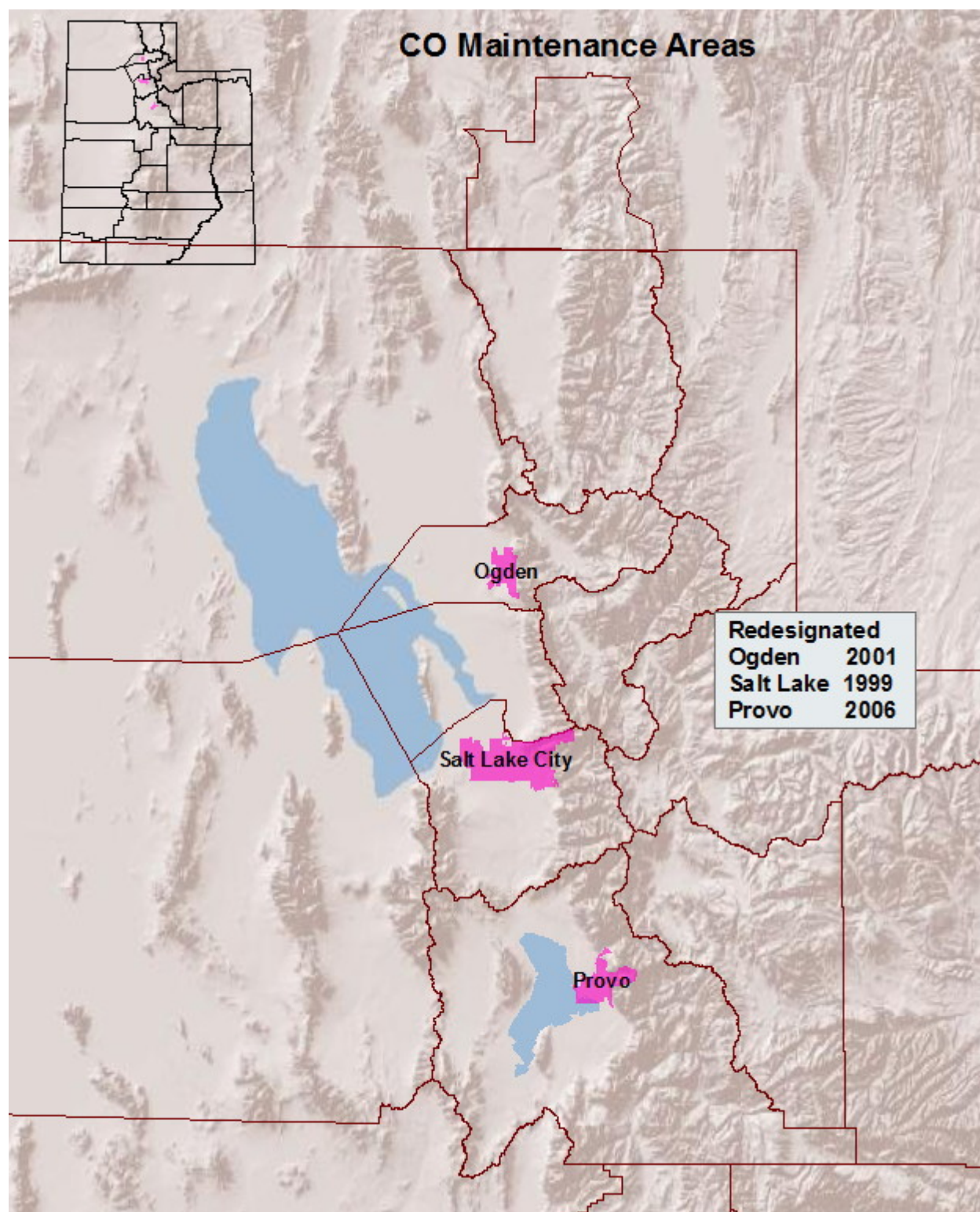


Figure 9: State of Utah Maintenance Areas for CO

The current air quality trend at LMTA and Hill AFB is one of controlling emissions as Hill AFB managers implement programs to eliminate ozone-depleting substances, limit use of volatile organic compounds (VOCs), switch to lower vapor pressure solvents and aircraft fuel, convert internal combustion engines from gasoline and diesel to natural gas, and improve the capture of particulates during painting and abrasive blasting operations (in compliance with the base's Title V air quality permit).

Table 2 presents the most recently published annual emission estimates for criteria pollutants and VOCs for Hill AFB (CH2M 2013) and for Davis and Weber Counties (DAQ 2013).

Location	CO	NO _x	PM-10	PM-2.5	SO _x	VOC
Hill AFB	244	169	23	20	4	200
LMTA	0.55	0.77	0.05	0.05	0.00	0.75
Davis County	36,172	8,752	1,176	699	463	14,504
Weber County	30,794	6,197	1,122	536	114	13,466

Table 2: Baseline Air Pollutants (tons/year)

Air emissions from the existing EPU overhaul operations are created by combusting propane to thermally oxidize hydrazine when an EPU being tested does not perform as expected, degreasing equipment, and applying surface coatings. The calculated air emissions due to the existing EPU overhaul operations (based on data in CH2M 2013) are shown in Table 3.

Source	CO	NO _x	PM-10	PM-2.5	SO _x	VOC	HAP
Thermal Oxidation	0.02	0.03	0.00	0.00	0.00	0.00	0.00
Degreasing	0.00	0.00	0.00	0.00	0.00	0.80	0.00
Surface Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note:
Hazardous air pollutant (HAP)

Table 3: Existing Operational Air Emissions (tons/year)

The degreasing method may change from dipping to wiping in the near future, which would greatly decrease VOC emissions.

Additional air emissions from the existing facilities exist from space heating during the winter months. These buildings are connected to the Hill AFB central steam heating system. The calculated air emissions for Buildings 2005, 2006, 2013, and 2024 (based on data in CH2M 2010) are shown in Table 4.

Heated Area	CO	NO _x	PM-10	PM-2.5	SO _x	VOC	HAP
3,700,000 ft ²	15.3	18.2	1.4	1.4	0.1	1.0	2.1
Buildings 2005, 2006, 2013, and 2024 (28,000 ft ²)	0.14	0.16	0.01	0.01	0.00	0.01	0.00

Notes:

The central steam plant provides heat for 3,700,000 square feet (ft²) of Hill AFB facilities.

Buildings 2005, 2006, 2013, and 2024 account for 28,000 ft² of the heated area.

Based on summer versus winter month emissions, heating related emissions were prorated as 86 percent of total emissions from the central steam plant.

Table 4: Existing Air Emissions Due to Steam Heating (tons/year)

3.3.2 Solid and Hazardous Wastes

In general, hazardous wastes include substances that, because of their concentration, physical, chemical, or other characteristics, may present substantial danger to public health or welfare or to the environment when released into the environment or otherwise improperly managed.

Potentially hazardous wastes generated at Hill AFB are managed as specified in the *Hill AFB Hazardous Waste Management Plan* with oversight by personnel from the Hill AFB

Environmental Quality Branch and the Defense Reutilization and Marketing Office (DRMO).

Hazardous wastes at Hill AFB are properly stored during characterization, and then manifested and transported off site for treatment and/or disposal.

Non-regulated solid wastes created by the existing EPU overhaul operations are comprised of plastic, glass, bead blast residue, all of which are recycled, and office trash. Rags containing neutralized hydrazine are laundered. Residues and sorbents from hydrazine spill response activities are disposed as hazardous waste. In the near future, it is anticipated that the spent isopropyl alcohol cleaning solution will change from a bulk liquid waste to alcohol-containing rags or wipes. Any related rags would be laundered. Any related disposable wipes would be tested and disposed as hazardous waste or as non-regulated solid waste, as appropriate.

Liquid wastes created by the existing EPU overhaul operations are comprised of:

- off specification aviation fuel is, which is disposed in accordance with federal and state regulations as a RCRA regulated waste;
- off specification oil, which is recycled;
- off specification hydrazine, which is recycled if possible, and the remainder is disposed in accordance with federal and state regulations as a RCRA regulated waste;
- spent isopropyl alcohol degreasing solution, which is sent to the Hill AFB industrial wastewater treatment plant (IWTP) in containers; and
- hydrazine neutralization solution, which is sent to the Hill AFB IWTP in containers.

3.3.3 Biological Resources

No federal or state endangered or threatened species are known to occur on properties managed by Hill AFB (Hill 2007b) and no likely habitat for any such species would be disturbed by the proposed action. Wildlife species that are federally listed, candidates for federal listing, or for which a conservation agreement is in place automatically qualify for the Utah sensitive species list. The additional species on the Utah sensitive species list, “wildlife species of concern (SOC),” are those species for which there is credible scientific evidence to substantiate a threat to continued population viability. The mule deer (*Odocoileus hemionus*) present on LMTA are a Utah SOC, as mule deer are linked to an at-risk habitat and are on the decline in much of their current range. There are no wetlands or floodplains affected by the alternatives discussed in this document.

LMTA and surrounding non-Air Force lands comprise 1,250 acres of mule deer habitat. The Air Force owns 731 acres (LMTA) of this available habitat. This herd is important in many respects. The Little Mountain area is isolated from other mule deer habitat, and it provides all of the necessary life requirements for these mule deer. Air Force property on Little Mountain supplies all of the life cycle requirements for mule deer except a consistent source of water. Several species of small mammals also occupy LMTA. Approximately 32 species of birds have been observed (see Table 5 below).

Common Name	Scientific Name	Status	Abundance	Reference
Mallard	<i>Anas platyrhynchos</i>	S	C	†
California gull	<i>Larus californicus</i>	S	C	†
Killdeer	<i>Charadrius vociferus</i>	R	C	*†
Spotted sandpiper	<i>Actitis macularia</i>	S	C	†
Ring-necked pheasant	<i>Phasianus colchicus</i>	R	U	*
Chukar	<i>Alectoris chukar</i>	R	U	*
Red-tailed hawk	<i>Buteo jamaicensis</i>	R	C	*
Swainson's hawk	<i>Buteo swainsoni</i>	S	FC	*
Ferruginous hawk	<i>Buteo regalis</i>	S	U	*
Bald eagle	<i>Haliaeetus leucocephalus</i>	W	FC	*
Golden eagle	<i>Aquila chrysaetos</i>	R	C	*
Peregrine falcon	<i>Falco peregrinus</i>	T	R	*
Prairie falcon	<i>Falco mexicanus</i>	R	FC	*
Great horned owl	<i>Bubo virginianus</i>	R	C	*
Mourning dove	<i>Zenaida macroura</i>	R	C	†
Cliff swallow	<i>Hirundo pyrrhonota</i>	S	C	*
Barn swallow	<i>Hirundo rustica</i>	S	C	†
American crow	<i>Corvus brachyrhynchos</i>	T	U	*
Common raven	<i>Corvus corax</i>	R	C	*†
Black-billed magpie	<i>Pica pica</i>	R	C	†
Rock wren	<i>Salpinctes obsoletus</i>	T	U	†
American robin	<i>Turdus migratorius</i>	R	C	*
European starling	<i>Sturnus vulgaris</i>	R	C	†
Brewer's blackbird	<i>Euphagus cyanocephalus</i>	R	C	*
Red-winged blackbird	<i>Agelaius phoeniceus</i>	S	C	*†
Western meadowlark	<i>Sturnella neglecta</i>	R	C	*†
Sage sparrow	<i>Amphispiza belli</i>	T	U	*

House finch	Carpodacus mexicanus	R	C	*
American goldfinch	Carduelis tristis	T	U	*
House sparrow	Passer domesticus	R	C	*†
Mountain bluebird	Sialia currucoides	S	U	*
Northern flicker	Colaptes auratus	A	C	*

Table 5: Birds That Occur on LMTA

Notes for Table 5:

Status

A = All year

S = Summer

W = Winter

T = Transitory

Abundance

C = Common - observed anytime

FC = Fairly common - observed most of the time

U = Uncommon - observed infrequently

R = Rare - observed rarely

References for Table 5:

* Utah State University, 1992, *Natural Resource Management Plan for the Hill Air Force Range, Wendover Air Force Range and Little Mountain Test Facility, Utah*

† Stackhouse, Mark, 1997, *Wetlands Linkage to Interstate Commerce at the Utah Test and Training Range and the Little Mountain Testing Facility, Utah*

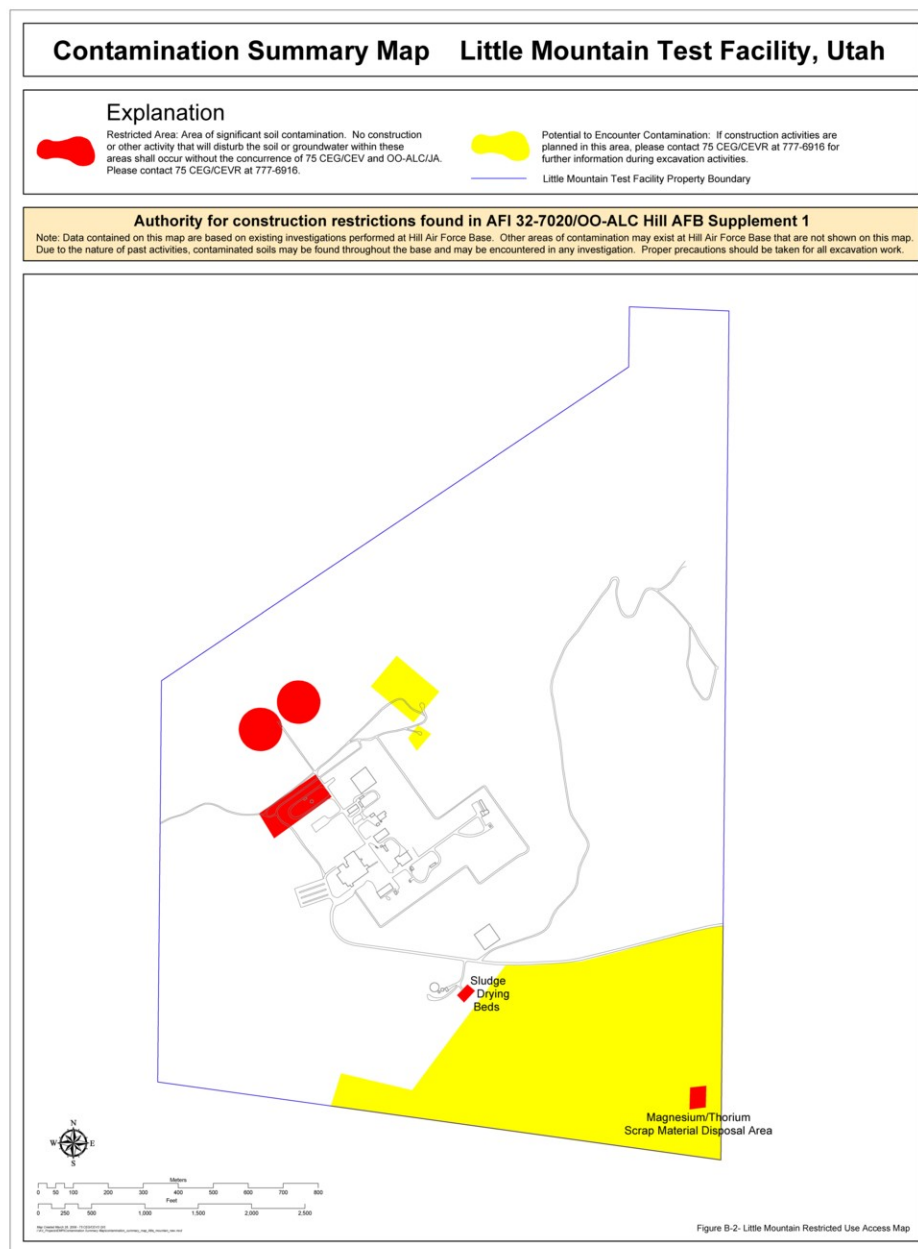
The natural sagebrush habitats at LMTA have been reduced to a community of grasses, forbs, and invasive species due to numerous fire events. The natural resources program at Hill AFB has created models to measure components that indicate the health of the habitat at specific locations. The components that are measured include: the health of a range (range health index, or RHI), the ability of a habitat to support wildlife (wildlife community index, or WCI), and the encroachment of invasive species (floristic quality index, or FQI). Site surveys quantify the health of a range by producing calculated indices ranging from 0.01 to 1.00 with 1.00 being the optimal level at which a habitat can function. For the RHI scale, 0.80 and higher is considered pristine, and below 0.30 is considered highly degraded. The overall RHI for the LMTA is 0.48, the overall WCI is 0.47, and the overall FQI is 0.28 (SES 2009).

The habitat for the proposed action consists of sagebrush/rabbit brush located on both sloping and flat land that frequently occurs within the Great Basin land form and along the foothills of the Wasatch Mountains. The dominant vegetation consists of Cheatgrass (*Bromus tectorum*), Rabbitbrush (*Chrysothamnus nauseosus*), and Big Sagebrush (*Artemisia tridentate*). In this area, the RHI is 0.51, the WCI is 0.64, and the FQI is 0.22 (SES 2013). Although somewhat degraded, the area that would be developed by the proposed action does provide winter forage for the resident mule deer.

3.3.4 Water Quality

At LMTA, runoff is allowed to infiltrate into the ground through overland flow or surface ditches, discharging to large unoccupied areas. No surface water bodies are present within the area occupied by constructing the proposed action.

Contamination of shallow groundwater may be present in the southeastern portion of LMTA (see Figure 10).



Note: Areas shaded in yellow have potential for contamination of shallow groundwater

Figure 10: Known and Potentially Contaminated Areas, LMTA

3.4 Description of Relevant Pre-Existing Environmental Factors

The Utah Geological Survey (UGS 1994a, UGS 1994b, UGS 2009) has assessed earthquake hazards for Weber County, Utah. The Weber County maps reveal faults along the western edge of the Wasatch Mountains, approximately 15 miles east of LMTA. Ground shaking potential at LMTA is categorized as high risk, in a zone where structures should be designed and constructed with a high degree of earthquake resistance. Liquefaction potential at LMTA is depicted as high. LMTA is outside of known landslide risk zones.

During scoping discussions and subsequent analysis, no other pre-existing environmental factors (e.g., hurricanes, tornados, floods, droughts) were identified for the proposed action.

3.5 Description of Areas Related to Cumulative Effects

For air quality, the area related to cumulative effects would include LMTA, Hill AFB, Davis County, and Weber County.

For solid and hazardous wastes, the area related to cumulative effects would include LMTA.

For biological resources, the area related to cumulative effects would include LMTA and the surrounding non-Air Force lands (1,250 total acres).

For water quality, the area related to cumulative effects would include LMTA.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 Introduction

This section discusses effects to the resources that were identified for detailed analysis in Section 1.7.2, and for which existing conditions were presented in Section 3.3. For each of these resources, the following analyses are presented:

- direct, indirect, and cumulative effects of no action (Alternative A);
- direct, indirect, and cumulative effects of the proposed action (Alternative B); and
- direct, indirect, and cumulative effects of constructing south of the LMTA access road (Alternative C).

4.2 Predicted Effects to Relevant Affected Resources

4.2.1 Predicted Effects to Air Quality

4.2.1.1 Alternative A: No Action

Existing air emissions as explained in Section 3.3.1 would continue. The no action alternative would have no other direct effects, no indirect effects, and no cumulative effects.

4.2.1.2 Alternative B: Proposed Action - Construct EPU Overhaul Complex

Direct Effects Due to Construction

Fugitive Dust: Fugitive emissions from construction activities would be controlled according to UAC Section R307-205, *Emission Standards: Fugitive Emissions and Fugitive Dust* and the Hill AFB *Fugitive Dust Plan*. Good housekeeping practices would be used to maintain construction opacity at less than 20 percent. Haul roads would be kept wet. Any soil that is deposited on nearby paved roads by construction vehicles would be removed from the roads and either returned to the site or placed in an appropriate disposal facility.

Heavy Equipment: The internal combustion engines of heavy equipment would generate air emissions. Assumptions and estimated emissions from heavy equipment constructing the EPU overhaul complex are listed in Table 6. Assumptions and estimated emissions from heavy equipment demolishing Buildings 2005 and 2006 are listed in Table 7.

Additional air emissions would be generated from laying a three-inch thick course of hot-mix asphalt. Based on the estimated 66,000 square feet of paved area and emission factors from the United States Environmental Protection Agency (EPA 2004), less than two pounds of VOCs would be released.

Data Assumptions							
Equipment Type	Emission Factor (lb/hr)						
	CO	NOx	PM-10	PM-2.5	SO ₂	VOC	
Diesel Water Truck	1.37	3.63	0.27	0.26	0.49	0.29	
Diesel Road Compactors	0.33	1.08	0.07	0.07	0.16	0.08	
Diesel Paver	0.33	1.08	0.07	0.07	0.16	0.08	
Diesel Dump Truck	1.37	3.63	0.27	0.26	0.49	0.29	
Diesel Excavator	0.86	3.04	0.21	0.21	0.49	0.22	
Diesel Trenchers	0.94	2.24	0.18	0.17	0.29	0.20	
Diesel Bore/Drill Rigs	1.51	4.73	0.33	0.32	0.48	0.40	
Diesel Cement & Mortar Mixers	1.53	4.81	0.32	0.31	0.48	0.40	
Diesel Cranes	0.50	2.21	0.13	0.13	0.28	0.17	
Diesel Graders	0.90	3.13	0.22	0.21	0.49	0.23	
Diesel Tractors/Loaders/Backhoes	1.81	1.59	0.30	0.29	0.21	0.41	
Diesel Bull Dozers	0.91	3.15	0.22	0.21	0.49	0.24	
Diesel Front End Loaders	1.03	3.31	0.23	0.22	0.49	0.25	
Diesel Fork Lifts	1.71	1.89	0.31	0.30	0.21	0.44	
Diesel Generator Set	0.33	0.53	0.06	0.06	0.07	0.11	
Construct EPU Complex							
EQUIPMENT TYPE	HOURS OF USE	Emissions (lb)					
		CO	NOx	PM-10	PM-2.5	SO ₂	VOC
Diesel Water Truck	12	16.4	43.6	3.3	3.2	5.9	3.5
Diesel Road Compactors	14	4.6	15.1	1.0	1.0	2.3	1.1
Diesel Paver	30	9.8	32.4	2.2	2.2	4.9	2.4
Diesel Dump Truck	120	164.3	435.7	32.5	31.7	58.7	34.9
Diesel Excavator	18	15.5	54.8	3.8	3.7	8.8	4.0
Diesel Trenchers	12	11.3	26.9	2.1	2.0	3.4	2.4
Diesel Bore/Drill Rigs	10	15.1	47.3	3.3	3.2	4.8	4.0
Diesel Cement & Mortar Mixers	20	30.7	96.3	6.3	6.2	9.7	8.1
Diesel Cranes	8	4.0	17.7	1.0	1.0	2.3	1.4
Diesel Graders	46	41.4	143.9	10.0	9.7	22.5	10.6
Diesel Tractors/Loaders/Backhoes	135	244.3	214.9	40.8	39.6	28.3	55.1
Diesel Bull Dozers	12	11.0	37.8	2.6	2.5	5.9	2.9
Diesel Front End Loaders	20	20.5	66.1	4.6	4.5	9.8	5.0
Diesel Fork Lifts	6	10.3	11.3	1.8	1.8	1.3	2.6
Diesel Generator Set	8	2.7	4.2	0.5	0.5	0.6	0.9
TOTAL ESTIMATED EMISSIONS (lb)		601.8	1248.0	116.2	113.0	169.0	138.9
TOTAL ESTIMATED EMISSIONS (tons)		0.30	0.62	0.06	0.06	0.08	0.07
Emission factors based on US Department of Homeland Security modeling, which used EPA's NONROAD2005 model							
Hours of use based on estimates from Steve Weed, MILCON Project Programmer, 75 CEG/CENP							

Table 6: Heavy Equipment Emissions, Construct EPU Overhaul Complex

Data Assumptions							
Equipment Type	Emission Factor (lb/hr)						
	CO	NOx	PM-10	PM-2.5	SO ₂	VOC	
Diesel Water Truck	1.37	3.63	0.27	0.26	0.49	0.29	
Diesel Road Compactors	0.33	1.08	0.07	0.07	0.16	0.08	
Diesel Paver	0.33	1.08	0.07	0.07	0.16	0.08	
Diesel Dump Truck	1.37	3.63	0.27	0.26	0.49	0.29	
Diesel Excavator	0.86	3.04	0.21	0.21	0.49	0.22	
Diesel Trenchers	0.94	2.24	0.18	0.17	0.29	0.20	
Diesel Bore/Drill Rigs	1.51	4.73	0.33	0.32	0.48	0.40	
Diesel Cement & Mortar Mixers	1.53	4.81	0.32	0.31	0.48	0.40	
Diesel Cranes	0.50	2.21	0.13	0.13	0.28	0.17	
Diesel Graders	0.90	3.13	0.22	0.21	0.49	0.23	
Diesel Tractors/Loaders/Backhoes	1.81	1.59	0.30	0.29	0.21	0.41	
Diesel Bull Dozers	0.91	3.15	0.22	0.21	0.49	0.24	
Diesel Front End Loaders	1.03	3.31	0.23	0.22	0.49	0.25	
Diesel Fork Lifts	1.71	1.89	0.31	0.30	0.21	0.44	
Diesel Generator Set	0.33	0.53	0.06	0.06	0.07	0.11	
Demolish Buildings 2005 and 2006							
EQUIPMENT TYPE	HOURS OF USE	Emissions (lb)					
		CO	NOx	PM-10	PM-2.5	SO ₂	VOC
Diesel Water Truck	3	4.1	10.9	0.8	0.8	1.5	0.9
Diesel Road Compactors	3	1.0	3.2	0.2	0.2	0.5	0.2
Diesel Paver	0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Dump Truck	15	20.5	54.5	4.1	4.0	7.3	4.4
Diesel Excavator	9	7.7	27.4	1.9	1.8	4.4	2.0
Diesel Trenchers	0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Bore/Drill Rigs	0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Cement & Mortar Mixers	0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Cranes	0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Graders	10	9.0	31.3	2.2	2.1	4.9	2.3
Diesel Tractors/Loaders/Backhoes	10	18.1	15.9	3.0	2.9	2.1	4.1
Diesel Bull Dozers	5	4.6	15.7	1.1	1.1	2.4	1.2
Diesel Front End Loaders	8	8.2	26.5	1.9	1.8	3.9	2.0
Diesel Fork Lifts	0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Generator Set	16	5.3	8.4	1.0	1.0	1.1	1.7
TOTAL ESTIMATED EMISSIONS (lb)		78.5	193.8	16.2	15.7	28.2	18.8
TOTAL ESTIMATED EMISSIONS (tons)		0.04	0.10	0.01	0.01	0.01	0.01
Emission factors based on US Department of Homeland Security modeling, which used EPA's NONROAD2005 model							
Hours of use based on estimates from Steve Weed, MILCON Project Programmer, 75 CEG/CENP							

Table 7: Heavy Equipment Emissions for Demolition

Asbestos: Buildings 2005 and 2006, which may contain asbestos, would be demolished as part of the proposed action. Prior to beginning any asbestos abatement efforts, a notification of at least 10 working days would be provided to DAQ, if required. Because all work would be performed in accordance with standards set by EPA, DAQ, and OSHA, there would be no effects to air quality associated with asbestos abatement. Additional details for asbestos abatement are provided in Section 4.2.2.2.

Direct Effects Due to Operations

Based on information received from the project proponent and during the scoping meeting held on September 9, 2013, air emissions due to operating the proposed action would be the same as are being generated in the existing facilities (see Table 3).

Based on discussions with the MILCON project programmer, space heating during the winter months would be provided by an on-site natural gas boiler. Calculated air emissions for space heating are shown in Table 8. These values are nearly identical to the values presented in Table 4 for the existing facilities.

Data Assumptions					
Equipment Type	Natural Gas Emission Factor (pounds/MMSCF)				
	VOC	CO	NOx	PM10	SOx
Natural Gas Furnace	5.5	84.0	100.0	7.6	0.6
Conversion Factors					
	Calculate Annual Fuel Consumption				
Square Feet	24,450	24,450	24,450	24,450	24,450
BTU per hour per square foot	30	30	30	30	30
Heating hours per year	5,000	5,000	5,000	5,000	5,000
Million BTU per year	3,668	3,668	3,668	3,668	3,668
MMSCF per year	3.6	3.6	3.6	3.6	3.6
Operate EPU Overhaul Complex					
Equipment Type	Natural Gas Emissions (pounds)				
	VOC	CO	NOx	PM10	SOx
Natural Gas Furnace	20	300	357	27	2
TOTAL ESTIMATED EMISSIONS (pounds/year)	20	300	357	27	2
TOTAL ESTIMATED EMISSIONS (tons/year)	0.01	0.15	0.18	0.01	0.00
<i>Notes:</i>					
MMSCF = Million Standard Cubic Feet, and BTU = British Thermal Unit					
1 cubic foot natural gas = 1,028 BTU					
Source: http://www.eia.doe.gov/kids/energyfacts/science/energy_calculator.html#natgascalc					
Office Space (as opposed to warehouse space): 15-45 BTU per hour per square foot					
There are approximately 5,000 heating hours in an average year					
Source: Dale R. Scott, P.E., SAIN Engineering Associates, Inc., 75CES/CEEE, Hill AFB, UT					
Assume 30 BTU per hour per square foot for new construction, offices					
http://www.eia.doe.gov/emeu/consumptionbriefs/cbecs/pbaweb/site/summarytable.htm					
Emission factors: EPA values for natural gas boilers					
For natural gas, SOx assumed equal to SO2					

Table 8: Predicted Air Emissions Due to Space Heating

Prior to operating the proposed action, Hill AFB air quality managers would submit notices of intent, seven day notifications, and modification requests to DAQ. Hill AFB would not be allowed to operate the facilities until DAQ concurs that federal and state requirements are being met, and an administrative amendment to the Hill AFB Title V Operating Permit is granted.

Conformity Applicability Determination

Due to local non-attainment status, a conformity applicability determination (compliant with 40 CFR 93.153 and UAC R-307-115) was completed for the proposed action. The proposed action would be required to demonstrate conformity with the CAA unless an applicability determination shows that it is exempt from conformity, in this case, due to having annual emissions below the thresholds established in 40 CFR 93.153(b)(1) and (b)(2). Predicted air emissions due to construction and due to operations were all much less than the established threshold values.

Indirect Effects

Air emissions from commuting and operational vehicles would increase (Table 9) as a result of relocating F-16 EPU overhaul operations to LMTA.

Data Assumptions							
Equipment Type	Emission Factor (grams/mile)						
	CO	NOx	PM-10	PM-2.5	SO ₂	VOC	
Passenger Car	9.400	0.693	0.004	0.004	n/a	1.034	
Equipment Type	Emission Factor (grams/mile)						
	CO	NOx	PM-10	PM-2.5	SO ₂	VOC	
Sport Utility, Light Truck	11.840	0.950	0.005	0.005	n/a	1.224	
Equipment Type	Emission Factor (grams/mile)						
	CO	NOx	PM-10	PM-2.5	SO ₂	VOC	
Diesel Semi Truck and Trailer	3.21	12.60	0.36	0.35	n/a	0.55	
Proposed Action (EPU Overhaul Complex), Increased Use of Vehicles							
EQUIPMENT	MILES	Emissions (lb/year)					
TYPE	PER YEAR	CO	NOx	PM-10	PM-2.5	SO ₂	VOC
Passenger Car	56,810	1177.3	86.8	0.6	0.5	n/a	129.5
Sport Utility, Light Truck	59,098	1542.6	123.8	0.6	0.6	n/a	159.5
Diesel Semi Truck and Trailer	10,530	74.5	292.5	8.4	8.1	n/a	12.8
TOTAL ESTIMATED EMISSIONS (lb/year)		2794.4	503.1	9.5	9.2	0.0	301.7
TOTAL ESTIMATED EMISSIONS (tons/year)		1.40	0.25	0.00	0.00	0.00	0.15
Emission factors based on EPA's <i>Average Annual Emissions and Fuel Consumption for Gasoline-Fueled Passenger Cars and Light Trucks</i> , October, 2008, and <i>USEPA 2005 Emission Facts</i> , which used EPA's MOBILE6 model.							
Estimated miles based on discussions with Scott Snyder, Hill AFB Hydrazine Element Chief.							

Table 9: Predicted Increased Vehicular Air Emissions

As discussed in Section 3.3.4, contamination of shallow groundwater may exist beneath portions of the proposed action. Installing sub-structure vapor barriers would protect indoor air quality by preventing organic vapors and/or radon gas from entering the structures.

During scoping and the detailed analysis, no other indirect effects related to air quality were identified for the proposed action.

Cumulative Effects

Construction: Construction-related air emissions would be limited to a duration of several months. Comparing the magnitude of predicted construction-related air emissions (Tables 6 and 7) to existing emissions for LMTA, Hill AFB, Weber and Davis Counties (Table 2), there would not be significant cumulative effects to air quality associated with constructing the proposed action.

Operations: Hill AFB air quality managers would ensure that long-term operation of the proposed action complies with the Hill AFB Title V Operating Permit, any relevant approval orders, EPA regulations, and the Utah SIP. Any required air quality control devices would be installed and tested prior to allowing newly installed equipment to begin operating. Comparing the magnitude of predicted operational air emissions stated above to existing emissions for LMTA, Hill AFB, Weber and Davis Counties (Table 2), no significant cumulative effects to air quality were identified for operating the proposed action.

4.2.1.3 Alternative C: Construct EPU Overhaul Complex South of the LMTA Access Road

The only difference between Alternative C and the proposed action would be its location, adjacent to but south of the proposed action. Effects to air quality for Alternative C would be the same as for the proposed action.

4.2.2 Predicted Effects to Solid and Hazardous Waste

4.2.2.1 Alternative A: No Action

Under the no action alternative, the wastes discussed in Section 3.3.2 would continue to be generated. With respect to solid and hazardous waste, the no action alternative would have no other direct effects, no indirect effects, and no cumulative effects.

4.2.2.2 Alternative B: Proposed Action - Construct EPU Overhaul Complex

Direct Effects Due to Construction

Waste Generation: During the proposed construction activities, solid wastes expected to be generated would be construction debris consisting mainly of concrete, metal, and building materials. These items would be treated as uncontaminated trash and recycled when feasible. It is possible that equipment failure or a spill of fuel, lubricants, or construction-related chemicals could generate solid or hazardous wastes. In the event of a spill of regulated materials, Hill AFB

environmental managers and their contractors would comply with all federal, state, and local spill reporting and cleanup requirements.

Waste Management: Hill AFB personnel have specified procedures for handling construction-related solid and hazardous wastes in their engineering construction specifications. The procedures are stated in Section 01000, General Requirements, Part 1, General, Section 1.24, Environmental Protection. All solid non-hazardous waste is collected and disposed or recycled on a routine basis. Hazardous wastes are stored at sites operated in accordance with the requirements of 40 CFR 265. The regulations require the generator to characterize hazardous wastes with analyses or process knowledge. Suspect waste is labeled as hazardous waste and is safely stored while analytical results are pending or until sufficient generator knowledge is obtained. Hazardous wastes are eventually labeled, transported, treated, and disposed in accordance with federal and state regulations.

Demolition Debris: Asbestos and LBP would be abated in accordance with federal, state, and local regulations. First, a detailed asbestos/LBP inspection would be performed by the Hill AFB asbestos/LBP shop (75 CES/CEOHA) technicians, and the results incorporated into project specifications. Each bidder would be pre-approved by 75 CES/CEOHA as qualified to perform asbestos/LBP abatement projects. Both the company and each individual worker must possess all required certifications to perform the specified tasks. Prior to beginning work, abatement contractors would provide an asbestos/LBP work plan to 75 CES/CEOHA for approval. 75 CES/CEOHA would conduct pre and post-abatement inspections of all work.

Any asbestos detected during the detailed asbestos inspection and subsequently removed during an abatement action, would be disposed in accordance with permit requirements at a disposal facility that is approved to accept both non-friable and friable asbestos. Loose flakes of lead-based paint (confirmed to contain lead by on-site inspections using a portable X-ray fluorescence analyzer) would be scraped, collected, and properly disposed at a permitted hazardous waste disposal facility. Prior to shipping any hazardous waste off base, the Hill AFB Hazardous Waste Control Facility (HWCF) manager would be contacted to coordinate signatures on waste manifests and to track shipments for reporting purposes. Dielectric fluid from any transformers or light ballasts suspected of containing PCBs would be tested, and the equipment would be properly disposed as either a regulated waste (PCB content of 50 parts per million [ppm] or more) or as uncontaminated trash (PCB content less than 50 ppm).

The uncontaminated demolition debris and LBP that is still affixed to surfaces would be handled in accordance with OSHA regulations. These materials must pass a toxicity characteristic leaching procedure (TCLP) analysis prior to being disposed at a local construction debris (Class VI) landfill. Any surfaces with LBP still affixed and above the TCLP threshold would be disposed as hazardous waste. Class VI landfills are allowed to accept construction and demolition waste, including: LBP affixed to surfaces, and a quantity of 10 PCB-containing light ballasts per structure.

Thermostats that contain mercury switches would be collected by Hill AFB technicians from the facility systems flight (75 CES/CEOFSH) prior to demolition activities. Any thermostats not saved for local reuse would be delivered to DRMO, which has an office on Hill AFB. DRMO would send the thermostats to be recycled, and a waste stream would not be created.

Any asphalt pavements surrounding the structures would be removed, collected, and would either be recycled, or stored and made available for reuse during future construction projects.

Excavated Soils: There is no known soil contamination at the location of the proposed action. However, excavations could potentially encounter contaminated soil at or beneath the shallow groundwater interface. If unusual odors or soil discoloration were to be observed during any excavation or trenching necessary to complete the proposed action, the soil would be stored on plastic sheeting and the remedial manager from the Hill AFB Environmental Restoration Branch (75 CEG/CEVR) would be notified. Any excess clean soil would either be used as fill for another on-site project or placed in the Hill AFB landfill. Any soil determined to be hazardous would be eventually labeled, transported, treated, and disposed in accordance with federal and state regulations. No soil would be taken off base without prior 75 CEG/CEVR written approval.

Direct Effects Due to Operations

Based on information received during the scoping meeting and subsequent discussions with the proponent, the types of solid and hazardous wastes to be generated due to operating the proposed action would be the same as for the existing facilities.

Indirect Effects

There would be new RCRA waste manifesting requirements for liquids containing hydrazine compared to current facilities. The Hill AFB *Hazardous Waste Management Plan* would be updated to address relocating the F-16 EPU overhaul operations to LMTA.

During scoping and the detailed analysis, no other indirect effects related to solid and hazardous waste were identified for the proposed action.

Cumulative Effects

Proper handling of solid and hazardous waste eliminates releases of contaminants to the environment or reduces such releases in conformity with legal limits. There would be no significant cumulative solid or hazardous waste effects associated with the proposed action.

4.2.2.3 Alternative C: Construct EPU Overhaul Complex South of the LMTA Access Road

The only difference between Alternative C and the proposed action would be its location, adjacent to but south of the proposed action. Effects to solid and hazardous waste for Alternative C would be the same as for the proposed action.

4.2.3 Predicted Effects to Biological Resources

4.2.3.1 Alternative A: No Action

With respect to biological resources, the no action alternative would result in ongoing changes to the health of habitat indices (RHI, WCI, and FQI), primarily influenced by frequency and extent

of future wildfires that may burn on LMTA. The 20-acre EPU complex site would remain in its current, somewhat degraded condition. No new fences would be constructed. No other direct effects, indirect effects, or cumulative effects were identified for the no action alternative.

4.2.3.2 Alternative B: Proposed Action - Construct EPU Overhaul Complex

Direct Effects Due to Construction

- **Construction:** Grading and covering the EPU complex site with structures and pavements would reduce available forage for birds and mammals. Eliminating these grasses and forbs would not be a significant effect due to the small size of the proposed project and the low quality of existing forage (site-specific RHI of 0.51 and FQI of 0.22). Recent site observations confirmed the presence of invasive species. Without management, construction activities would increase the chance of introducing additional invasive species.
- **Management:** Management for invasive species would be accomplished by planting any areas not occupied by structures and pavements with either maintained landscaping, or with fire resistant plants, native grasses, and native shrubs as outlined in the Hill AFB *Integrated Natural Resources Management Plan* (Hill 2007b).

Direct Effects Due to Operations

Effects due to operating the EPU overhaul complex would be the same as the effects stated for constructing the complex.

Indirect Effects

- **Effects:** Mule deer and rodents would be displaced from approximately 20 acres of winter range. During scoping and the detailed analysis, no other indirect effects related to biological resources were identified for the proposed action.
- **Management:** Management for loss of habitat would be accomplished by improving approximately 20 acres of adjacent habitat uphill (north) of the proposed action. This area has been impacted by fires. This area would be restored by planting fire resistant plants, native grasses, and native shrubs as outlined in the Hill AFB *Integrated Natural Resources Management Plan* (Hill 2007b).

Cumulative Effects

Past fires at LMTA have degraded the habitat from a native shrub dominated community to a grass and forb plant community with invasive species. Long-term existence of the EPU facilities would prevent succession of this 20-acre area to a native state. Due to currently degraded biological indices and the habitat management strategies mentioned above, no significant cumulative effects to biological resources were identified for the proposed action.

4.2.3.3 Alternative C: Construct EPU Overhaul Complex South of the LMTA Access Road

The soil type for Alternative C, Barton Rocky Loam , is the same as for the proposed action (Hill 2013). It is expected that excavations will encounter material from pebbles to boulders in size. Due to the matching soil and close proximity of the two alternatives, habitat for Alternative C is the same as for the proposed action. Effects to biological resources for Alternative C would be the same as for the proposed action.

4.2.4 Predicted Effects to Water Quality

4.2.4.1 Alternative A: No Action

With respect to water quality, the no action alternative would have no direct effects, no indirect effects, and no cumulative effects.

4.2.4.2 Alternative B: Proposed Action - Construct EPU Overhaul Complex

Direct Effects Due to Construction

Based on information provided by Hill AFB engineers, the land area to be disturbed by the proposed EPU overhaul complex would be approximately 20 acres in size. The proposed action would be covered under Utah's general construction permit rule for stormwater compliance. Prior to initiating any construction activities, this permit must be obtained and erosion and sediment controls must be installed according to a stormwater pollution prevention plan (SWPPP). The SWPPP would specify measures to prevent soil from leaving the construction site on the wheels of construction vehicles, thereby controlling the migration of sediments away from the site. The proponents would coordinate with the Hill AFB water quality manager (75 CEG/CENE) prior to submitting an application for a Utah construction stormwater permit.

The SWPPP and Hill AFB construction specifications would require the contractor to restore the land to a non-erosive condition. All areas disturbed by excavation would be backfilled, and then either be covered by pavements, gravel, or re-planted, re-seeded, or sodded to prevent soil erosion.

Since the proposed action would convert approximately 20 acres occupied by open land to impermeable surfaces, some increased stormwater runoff volume would be expected unless runoff controls were to be created during construction of the EPU overhaul complex. EISA Section 438 specifies stormwater runoff requirements for federal development projects. The sponsor of any development or redevelopment project involving a federal facility with a footprint that exceeds 5,000 square feet must ensure that all precipitation from the 95th percentile, 24-hour storm event is retained on site (for LMTA, this storm depth is approximately 0.8 inches [EPA 2009]). Compliance with this requirement (by designing and constructing detention and/or retention structures) would eliminate downstream effects due to creating impermeable surfaces.

Contamination of shallow groundwater may exist beneath portions of the proposed action. If groundwater or saturated soils were to be contacted within the areas shown in yellow shading on Figure 10, activities would be halted and the remedial manager from the Hill AFB

Environmental Restoration Branch (75 CEG/CEVR) would be notified. In such an event, all applicable requirements would be met in all subsequent activities.

Direct Effects Due to Operations

The proposed facility would be subject to Utah's multi-sector general permit for industrial facilities. The *Hill AFB Stormwater Management Program - Municipal Stormwater Permit* establishes good housekeeping measures and other best management practices to prevent contamination of runoff.

Indirect Effects

During scoping and the detailed analysis, no indirect effects related to water quality were identified for the proposed action.

Cumulative Effects

Water quality would be protected during construction and operations. There would be no significant cumulative water quality effects associated with the proposed action.

4.2.4.3 Alternative C: Construct EPU Overhaul Complex South of the LMTA Access Road

The only difference between Alternative C and the proposed action would be its location, adjacent to but south of the proposed action. Effects to water quality for Alternative C would be the same as for the proposed action.

4.3 Summary Comparison of Predicted Environmental Effects

This section only applies to the alternatives considered in detail.

Issue	Alternative A No Action	Alternative B Proposed Action	Alternative C Construct South of LMTA Access Road
Air Quality	Existing degreasing operations emit four tons per year of volatile organic compounds, but would be greatly reduced if dipping operations change to wiping.	Qualified asbestos abatement contractors would prevent impacts to air quality. Construction equipment would create temporary emissions. Fugitive dust would be controlled. Degreasing operations would emit four tons per year of volatile organic compounds, or much less if wiping were to be implemented. Additional commuting and delivery vehicle emissions would exist. Sub-structure vapor barriers would protect indoor air quality. Conformity with the Clean Air Act was demonstrated.	Same as for the proposed action.
Solid and Hazardous Waste	Regulated solid wastes and regulated liquids are treated and/or disposed in accordance with applicable regulations.	If contaminated building materials, soils or pavements are identified, they would be properly handled during the demolition and construction process. EPU overhaul activities would generate the same types of waste as the existing facilities.	Same as for the proposed action.
Biological Resources	The 20-acre vacant site would remain in its current, somewhat degraded condition	Mule deer and rodents would be displaced. Management for loss of habitat would be accomplished by improving adjacent habitat uphill (north) of the proposed action.	Same as for the proposed action.
Water Quality	Good housekeeping measures and other best management practices are being followed.	During construction and operations, water quality would be protected by implementing stormwater management practices. Precipitation from the 95th percentile, 24 hour storm event would be retained on site. Contamination of shallow groundwater may exist beneath portions of the proposed action. If groundwater or saturated soils were to be contacted, activities would be halted and Hill AFB remedial managers would be contacted. Good housekeeping measures and other best management practices would be incorporated into facility design and operations.	Same as for the proposed action.

Table 10: Summary Comparison of Predicted Environmental Effects

5.0 LIST OF PREPARERS

Streamline Consulting, LLC

Randal B. Klein, P.E., Project Manager, (801) 451-7872

Civil Engineer Group, Environmental Quality Branch, 75 CEG/CENE

Sam Johnson, EIAP Manager, (801) 775-3653

Select Engineering Services

Rudy Jones, Biologist, (801) 399-1858

6.0 LIST OF PERSONS AND AGENCIES CONSULTED

Civil Engineer Group, Environmental Quality Branch, 75 CEG/CEI

Sam Johnson, EIAP Manager, (801) 775-3653

Russ Lawrence, Natural Resources Manager, (801) 775-6972

Anya Kitterman, Archaeologist/Cultural Resource Manager, (801) 586-2464

Glenn Palmer, Air Quality Manager, (801) 775-6918

Civil Engineer Organizations, 75 CEG and 75 CES

Steven Weed, MILCON Project Programmer, (801) 777-2580

Krista Hailey, Community Planner, (801) 777-2613

Nick King, Asbestos/Lead Based Paint Acting Supervisor, (801) 777-8006

309 Maintenance Wing, Aircraft Maintenance Group, 309 AMXG

Dave Gange, Lead Facility Engineer, (801) 777-6363

309 Maintenance Wing, Maintenance Support Squadron, 309 MXSS

Chris Rowins, Engineer, (801) 777-3474

Guy Whalen, Unit Environmental Coordinator (801) 775-2294

531 Commodities Maintenance Squadron, 531 CMMXS

Scott Snyder, Hydrazine Element Chief, (801) 777-0929

Air Force Civil Engineer Center, AFCEC/CZO Hill IST

Jaynie Hirschi, Archaeologist, (801) 775-6920

Cardno EM-Assist, Inc.

Mark Kaschmitter, Air Regulatory Analysis, (801) 775-2359

CH2M HILL, Inc.

Sara Van Klooster, Air Emissions Inventory, (801) 775-5173

Select Engineering Services

Karl Nieman, Hazardous Waste Compliance, (801) 777-5788

Statistical Research, Inc.

Charlene Brown, Architectural Historian/Architect, (801) 775-6909

7.0 REFERENCES

AFCEE 2005: *Environmental Impact Analysis Process Desk Reference*, AFCEE, July, 2005.

Arkush 1992: *A 1991 Archaeological Assessment of the U.S. Air Force Designated Lands*, Arkush, Brooke S., Gar W. Workman, and William B. Fawcett, 1992.

CFR: *Code of Federal Regulations*, US Government Printing Office, Office of the Federal Register, current versions, which are located at:

<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=%2Findex.tpl>

29 CFR 1910, *Occupational Safety And Health Standards*

32 CFR 989, *Environmental Impact Analysis Process*

40 CFR 265, *Interim Status Standards For Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities*

40 CFR 1500-1508, *Council on Environmental Quality*

40 CFR 93.154, *Determining Conformity of Federal Actions to State or Federal Implementation Plans*

CH2M 2010: Spreadsheet provided by Hill AFB contractor CH2M HILL, September, 2010.

CH2M 2013: Spreadsheets provided by Hill AFB contractor CH2M HILL, February and October, 2013.

DAQ 2013: *Division of Air Quality Annual Report for 2012*, Utah Division of Air Quality, 2013.

EPA 2004: *AP-42, Compilation of Air Pollutant Emission Factors (Section 11.1.2.5)*, USEPA, March, 2004.

EPA 2009: *Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act*, USEPA, December, 2009.

Hill AFB: *Construction Specifications, Section 01000, General Requirements, Part 1, General, Section 1.24, Environmental Protection*, Hill AFB, UT, current version.

Hill 2005: *Memorandum of Agreement Between Hill Air Force Base and the Utah State Historic Preservation Officer Pursuant to 36 CFR 800 Regarding the Demolition of 139 Historic Buildings, Explosives Clear Zone Area, Hill Air Force Base, Utah*, Hill AFB, 2005.

Hill 2007a: *Integrated Cultural Resources Management Plan*, Hill AFB, 2007.

Hill 2007b: *Integrated Natural Resources Management Plan*, Hill AFB, 2007.

Hill 2012a: *Spill Prevention Control and Countermeasures (SPCC) Plan for Hill Air Force Base*, Hill AFB, April, 2012.

Hill 2012b: *Hill AFB General Plan*, Hill AFB, 2012.

Hill 2013: *Little Mountain Soils Map*, Hill AFB, October, 2013.

SES 2009: *Biological Report for LMTA*, Select Engineering Services, March, 2009.

SES 2013: *Biological Report for LMTA*, Select Engineering Services, August, 2013.

UGS 1994a: *Earthquake Ground Shaking in Utah*, Utah Geological Survey, 1994.

UGS 1994b: *Liquefaction Potential for a Part of Weber County, Utah*, Utah Geological Survey, 1994.

UGS 2009: *Earthquake Fault Map of a Portion of Weber County, Utah*, Utah Geological Survey, current on website as of March, 2009.

USAF 2009: *Air Force Demolition Policy*, USAF, March, 2009.

USAF 2011: *Air Force Manual 91-201*, USAF, January, 2011.

APPENDIX A

CULTURAL RESOURCES FINDING OF NO ADVERSE EFFECT

APPENDIX A

CULTURAL RESOURCES FINDING OF NO ADVERSE EFFECT



GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Julie Fisher
Executive Director
Department of
Heritage & Arts



Brad Westwood
Director

December 24, 2013

Dr. Joseph A. Martone
Chief, Environmental Quality Branch
75 CEB/CEIE
7274 Wardleigh Road
Hill Air Force Base, Utah 84056-5137

RE: New Building Complex at Little Mountain Test Annex
Emergency Power Unit Overhaul Complex

In reply please refer to Case No. 13-1556

Dear Dr. Martone:

The Utah State Historic Preservation Office received your submission and request for our comment on the above-referenced project on December 22, 2013. Based on the information provided to our office, we concur with a finding of No Adverse Effect on the undertaking (new complex/demolition) because Building 2005 was previously determined ineligible for listing on the National Register and Building 2006 has already been mitigated.

This information is provided to assist with Section 106 responsibilities as per §36CFR800. If you have questions, please contact me at clhansen@utah.gov or 801-245-7239.

Regards,

Chris Hansen
Preservation Planner/Deputy SHPO



DEPARTMENT OF THE AIR FORCE
75TH CIVIL ENGINEER GROUP (AFMC)
HILL AIR FORCE BASE UTAH

17 December 2013

Dr. Joseph A. Martone
Chief, Environmental Quality Branch
75 CEG/CEIE
7274 Wardleigh Road
Hill Air Force Base Utah 84056-5137

Mr. Chris Hansen
Deputy State Historic Preservation Officer
300 Rio Grande
Salt Lake City Utah 84101

Dear Mr. Hansen

The United States Air Force (USAF) located at Hill Air Force Base (AFB) plans a new building complex at one of its geographically associated units, Little Mountain Test Annex (LMTA). The new complex, Emergency Power Unit (EPU) Overhaul Complex, will house critical maintenance operations for the F-16 aircraft. Currently, operations are being conducted on Hill AFB in Buildings 2005, 2006, 2013, and 2024 located in the Missile and Munitions (MAMS) II area. Operations have been conducted in these facilities since 1985 and at that time, there were no safety standards prohibiting these activities from taking place in the MAMS II area. USAF explosive safety standards now prohibit non-explosive operations from taking place in this location.

The proposed areas of new construction located on LMTA have been surveyed according to the Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation. The surveys (U-91-WC0687m and U-01-HL-0558m) were completed in 1991 and 2001. No cultural resources were discovered during the surveys and there are no known sites within the proposed project area (Attachment 1).

Given the lack of previous findings, the potential for archaeological historic properties is extremely low; however, if any archaeological resources are found during construction, ground-disturbing activities in the immediate vicinity will cease, the Hill AFB Cultural Resources Program will be notified, and the unanticipated discovery of archaeological deposits procedures shall be implemented with direction from the Hill AFB Cultural Resources Program and in accordance with the Hill AFB Integrated Cultural Resources Management Plan (Attachment 2).

The project also currently proposes the demolition of two existing structures within Hill AFB. Buildings 2005 and 2006, will be demolished on Hill AFB in support of the USAF's Civil Engineering physical plant strategy, which calls for reducing net facility foot print by 20%

between 2006 and 2020 (USAF 20/20, 2009) by demolishing surplus and inefficient facilities (Attachment 3).

Building 2005 was recently reevaluated and has been determined individually ineligible and is a non-contributor to the Ogden Air Materiel Area Historic District (District) through a reduction of the District's context and the building's loss of integrity. The Utah State Historic Preservation Office (SHPO) concurred with this determination in October 2013. Building 2006, a World War II eligible building, was mitigated for demolition through a Memorandum of Agreement signed in 2005 between the USAF and the Utah SHPO (Attachment 4).

Building surveys, archaeological surveys, and assessments, including Utah State Historic Site Forms and HABS/HAER documentation have been completed for these buildings and the LMTA, and are on file in your office.

Due to the ineligibility of Building 2005 and the previous mitigation of Building 2006, there will be *no adverse effect* from this project to cultural resources.

In consideration of these facts, we request your concurrence with the determination of *no adverse effect* to cultural resources as specified in §36 CFR 800.4(c). Should you or your staff have any questions, please contact Ms. Anya Kitterman, Archaeologist, CEIEC, at (801) 586-2464 or at anya.kitterman@us.af.mil.

Sincerely



JOSEPH A. MARTONE, Ph.D., CIH, QEP, GS-13, DAF
Chief, Environmental Quality Branch
75th Civil Engineer Group

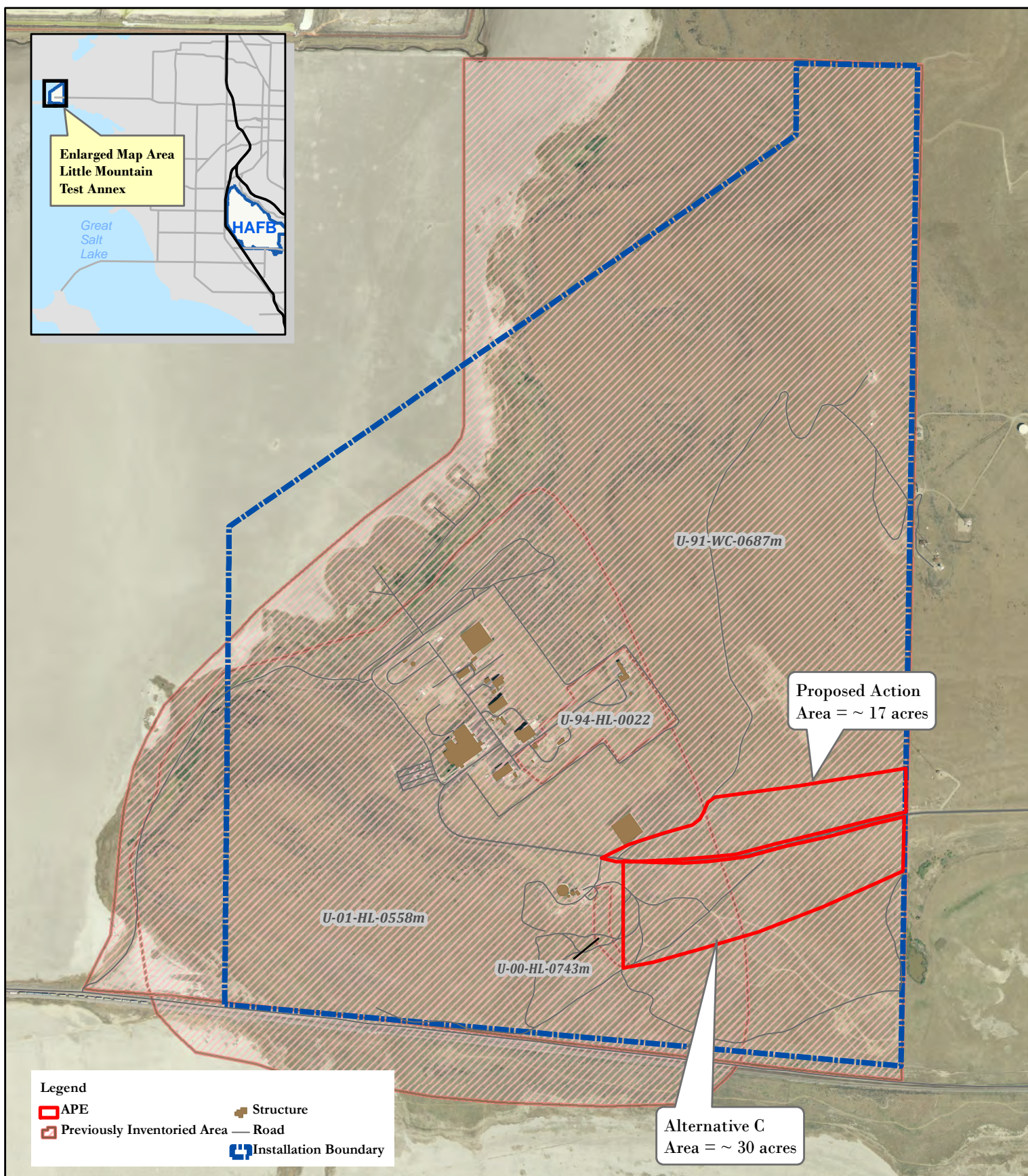
Attachments:

1. Area of Potential Effects for the EPU Proposed Location
2. Unanticipated Discovery of Archaeological Deposits
3. Building Demolition Map
4. 2005 ECZ-MOA Mitigated for Demolition

cc:

Blackfeet Indian Tribe (w/o Attachments 3 and 4)
Confederated Tribes of the Goshute Indian Reservation (w/o Attachments 3 and 4)
Crow Tribe of Montana (w/o Attachments 3 and 4)
Duckwater Shoshone Tribe (w/o Attachments 3 and 4)
Eastern Shoshone Tribe (w/o Attachments 3 and 4)
Ely Shoshone Tribe (w/o Attachments 3 and 4)
Hopi Tribe (w/o Attachments 3 and 4)
Navajo Nation (w/o Attachments 3 and 4)
Northern Arapaho Tribe (w/o Attachments 3 and 4)

Northwestern Band of the Shoshone Nation (w/o Attachments 3 and 4)
Paiute Indian Tribe of Utah (w/o Attachments 3 and 4)
Pueblo of Zuni (w/o Attachments 3 and 4)
San Juan Southern Paiute Tribe (w/o Attachments 3 and 4)
Shoshone-Bannock Tribes of the Fort Hall Reservation (w/o Attachments 3 and 4)
Shoshone-Paiute Tribes of the Duck Valley Reservation (w/o Attachments 3 and 4)
Skull Valley Band of Goshute Indians (w/o Attachments 3 and 4)
Te-Moak Tribe of Western Shoshone Indians (w/o Attachments 3 and 4)
Ute Indian Tribe (w/o Attachments 3 and 4)
Ute Mountain Ute Tribe (w/o Attachments 3 and 4)
Wells Band of Western Shoshone (w/o Attachments 3 and 4)



Area of Potential Effect for EPU Locations - Attachment 1
Little Mountain Test Annex
CRM Previously Inventoried Areas
Hill Air Force Base, UT

Standard Operating Procedure

UNANTICIPATED DISCOVERY OF ARCHAEOLOGICAL DEPOSITS

APPLICABLE LAWS AND REGULATIONS

- ◆ National Historic Preservation Act
- ◆ National Environmental Policy Act
- ◆ Native American Graves Protection and Repatriation Act
- ◆ AFI 32-7065 (June 2004), *Cultural Resources Management Program*

OVERVIEW

All undertakings that disturb the ground surface have the potential to discover buried and previously unknown archaeological deposits. The accidental discoveries of archaeological deposits during an undertaking can include but are not limited to:

- ◆ Undiscovered/undocumented structural and engineering features; and
- ◆ Undiscovered/undocumented archaeological resources such as foundation remains, burials, artifacts, or other evidence of human occupation.

POLICY

When cultural resources are discovered during the construction of any undertaking or ground-disturbing activities, Hill AFB shall:

- ◆ Evaluate such deposits for NRHP eligibility.
- ◆ Treat the site as potentially eligible and avoid the site insofar as possible until an NRHP eligibility determination is made.
- ◆ Make reasonable efforts to minimize harm to the property until the Section 106 process is completed.
- ◆ **The BHPO will ensure that the provisions of NAGPRA are implemented first if any unanticipated discovery includes human remains, funerary objects, or American Indian sacred objects (see SOP #6).**

PROCEDURE

Step 1: Work shall cease in the area of the discovery (Figure 5-5). Work may continue in other areas.

- ◆ The property is to be treated as eligible and avoided until an eligibility determination is made. Hill AFB will continue to make reasonable efforts to avoid or minimize harm to

Further construction activities in the vicinity of the site will be suspended until an agreed-upon testing strategy has been carried out and sufficient data have been gathered to allow a determination of eligibility. The size of the area in which work should be stopped shall be determined in consultation with the **BHPO**.

the property until the Section 106 process is completed.

Step 2: Immediately following the discovery, the **Project Manager** shall notify the installation **BHPO**.

Step 3: The **BHPO** or a professional archaeologist shall make a field evaluation of the context of the deposit and its probable age and significance, record the findings in writing, and document with appropriate photographs and drawings.

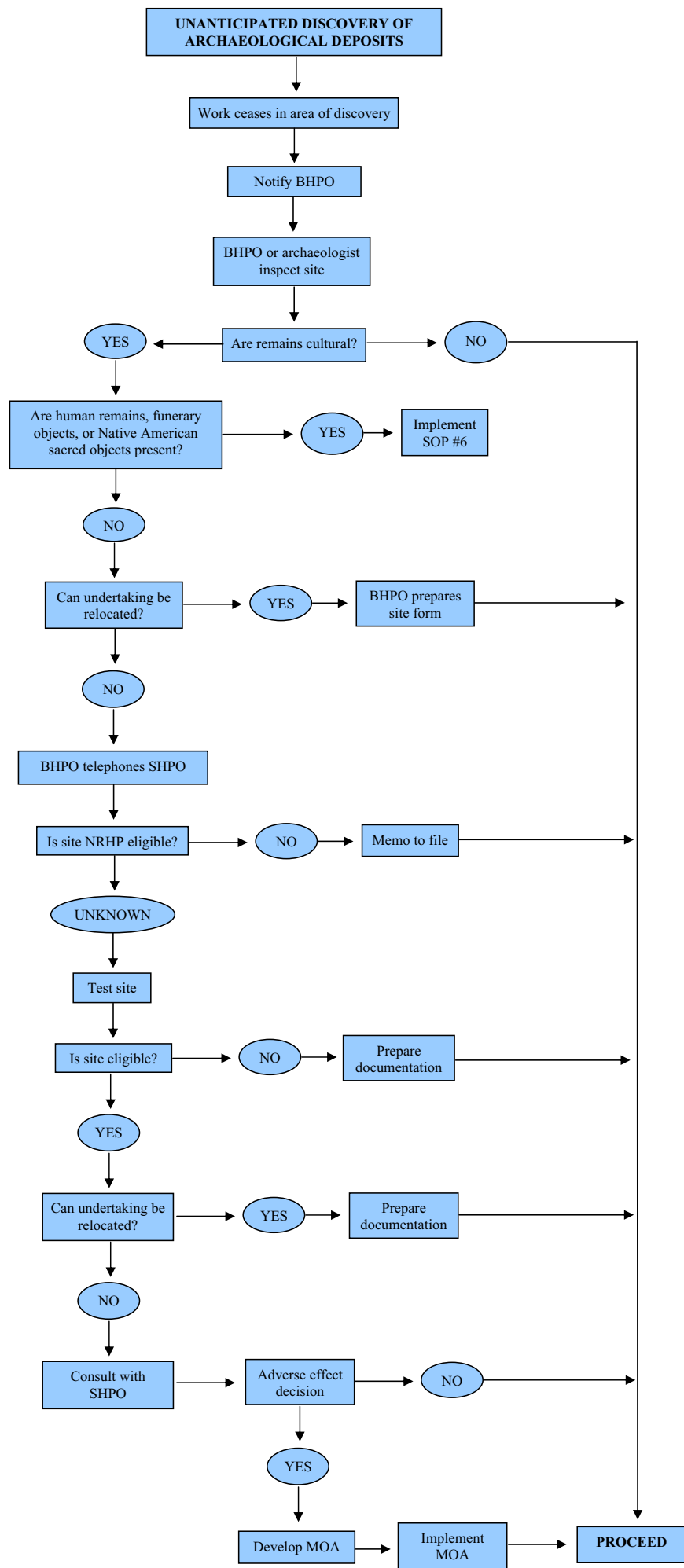
- ◆ If disturbance of the deposits is minimal and the excavation can be relocated to avoid the site, the **BHPO** will file appropriate site forms in a routine manner.
- ◆ If the excavation cannot be relocated, the **BHPO** shall notify the office of the **SHPO** to report the discovery and to initiate an expedited consultation.

The Section 106 review process is initiated at this point.

- ◆ If the deposits are determined to be ineligible for inclusion in the NRHP, then Hill AFB **BHPO** will prepare a memorandum for record and the construction may proceed.
- ◆ If the existing information is inadequate for an NRHP eligibility determination, Hill AFB **BHPO** shall develop an emergency testing plan in coordination with the SHPO.

Step 4: Hill AFB shall have qualified personnel conduct test excavations of the deposits to determine NRHP eligibility.

- ◆ Hill AFB BHPO, in consultation with the SHPO, will determine appropriate methodology for NRHP eligibility determination.
- ◆ If the SHPO and Hill AFB agree that the deposits are ineligible for inclusion in the NRHP, then work on the undertaking may proceed.
- ◆ If the deposits appear to be eligible, or Hill AFB and the SHPO cannot agree on the question of eligibility, then Hill AFB shall implement alternative actions, depending on the urgency of the proposed action.
 - Hill AFB may relocate the project to avoid the adverse effect.
 - Hill AFB may request the Keeper of the National Register to provide a determination.
 - Hill AFB may proceed with a data recovery plan under a MOA developed in coordination with the SHPO and possibly the ACHP and interested parties.
 - **Hill AFB may request comments from the ACHP and may develop and implement actions that take into account the effects of the undertaking on the property to the extent feasible and the comments of the SHPO, ACHP, and interested parties. Interim comments must be provided to Hill AFB within 48 hours; final comments must be provided within 30 days.**



APPENDIX B

RESPONSES FROM AMERICAN INDIAN TRIBES

between 2006 and 2020 (USAF 20/20, 2009) by demolishing surplus and inefficient facilities (Attachment 3).

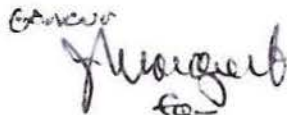
Building 2005 was recently reevaluated and has been determined individually ineligible and is a non-contributor to the Ogden Air Materiel Area Historic District (District) through a reduction of the District's context and the building's loss of integrity. The Utah State Historic Preservation Office (SHPO) concurred with this determination in October 2013. Building 2006, a World War II eligible building, was mitigated for demolition through a Memorandum of Agreement signed in 2005 between the USAF and the Utah SHPO (Attachment 4).

Building surveys, archaeological surveys, and assessments, including Utah State Historic Site Forms and HABS/HAER documentation have been completed for these buildings and the LMTA, and are on file in your office.

Due to the ineligibility of Building 2005 and the previous mitigation of Building 2006, there will be *no adverse effect* from this project to cultural resources.

In consideration of these facts, we request your concurrence with the determination of *no adverse effect* to cultural resources as specified in §36 CFR 800.4(c). Should you or your staff have any questions, please contact Ms. Anya Kitterman, Archaeologist, CEIEC, at (801) 586-2464 or at anya.kitterman@us.af.mil.

Sincerely



Kwawawisilwa

12-24-13



JOSEPH A. MARTONE, Ph.D., CIH, QEP, GS-13, DAF
Chief, Environmental Quality Branch
75th Civil Engineer Group

Attachments:

1. Area of Potential Effects for the EPU Proposed Location
2. Unanticipated Discovery of Archaeological Deposits
3. Building Demolition Map
4. 2005 ECZ-MOA Mitigated for Demolition

cc:

Blackfeet Indian Tribe (w/o Attachments 3 and 4)
Confederated Tribes of the Goshute Indian Reservation (w/o Attachments 3 and 4)
Crow Tribe of Montana (w/o Attachments 3 and 4)
Duckwater Shoshone Tribe (w/o Attachments 3 and 4)
Eastern Shoshone Tribe (w/o Attachments 3 and 4)
Ely Shoshone Tribe (w/o Attachments 3 and 4)
Hopi Tribe (w/o Attachments 3 and 4)
Navajo Nation (w/o Attachments 3 and 4)
Northern Arapaho Tribe (w/o Attachments 3 and 4)



THE
NAVAJO
NATION

Historic Preservation Department, POB 4950, Window Rock, AZ 86515 • PH: 928.871-7198 • FAX: 928.871.7886



BEN SHELLY
PRESIDENT

REX LEE JIM
VICE-PRESIDENT

January 3, 2014

Joseph A. Martone, Chief Environmental Quality Branch
Department Of The Air Force
75th Civil Engineer Group (AFMC)
7274 Wardleigh Road
Hill Air Force Base, Utah 84056

Subject: New building complex at Hill Air Force Base, Little Mountain Test Annex (LMTA) Utah

Dear Mr. Martone:

The Historic Preservation Department-Traditional Culture Program (HPD-TCP) is in receipt of an invitation to participate in consultation regarding proposed plans for a new building complex at one of its geographically associated units, Little Mountain Text Annex (LMTA) which will house critical maintenance operations for the F-16 aircraft.

After reviewing your consultation documents, the HPD-TCP has concluded the proposed undertaking/project area **will not impact** any Navajo traditional cultural properties. The proposed plans are outside of the Navajo Nation aboriginal lands. The HPD-TCP, on behalf of the Navajo Nation, has no concerns at this time.

However the determination made by the HPD-TCP does not necessarily mean that the Navajo Nation has no interests or concerns with the proposed project. If the proposed project inadvertently discovers habitation sites, plant gathering areas, human remains and objects of cultural patrimony the HPD-TCP request that we be notified respectively in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA). *The Navajo Nation claims cultural affiliation to all Anasazi people (periods from Archaic to Pueblo IV) of the southwest. The Navajo Nation makes this claim through Navajo oral history and ceremonial history, which has been documented as early as 1880 and taught from generation to generations.*

The HPD-TCP appreciates the Department Of The Air Force's consultation efforts regarding this project. Should you have any additional concerns and/or questions do not hesitate to contact me electronically at tony@navajohistoricpreservation.org or telephone at 928-871-7750.

Sincerely,

Tony H. Joe, Jr., Supervisory Anthropologist (Section 106 Consultation)
Traditional Culture Program
Historic Preservation Department

TCP
cc:

13-425
Office File/Chrono

FINDING OF NO SIGNIFICANT IMPACT

1. **NAME OF ACTION:** Proposed Emergency Power Unit (EPU) Overhaul Complex at Little Mountain Test Annex (LMTA), Utah.

2. **DESCRIPTION OF THE PROPOSED ACTION:** Hill Air Force Base (AFB) proposes to construct a complex in which EPUs would be overhauled for the F-16 fighter aircraft.

3. **SELECTION CRITERIA:**

The proposed action meets the following criteria:

- comply with explosive safety requirements
- establish a 300-foot buffer zone
- not conflict with the Hill AFB General Plan
- comply with federal, state, and local environmental regulations

4. **ALTERNATIVES CONSIDERED:**

Alternative A: No Action

Under the no action alternative, a new EPU overhaul complex would not be constructed, and safe facilities would not be provided. The existing facilities would operate as they currently exist in violation of United States Air Force (USAF) explosive safety standards.

Alternative B: Proposed Action

The EPU overhaul complex would be constructed, to include four buildings with structural steel frames and masonry walls, reinforced concrete footings, foundations and floor slabs, mechanical and electrical systems, water and fire protection systems, and communications networks; a separation between buildings of at least 300 feet; and connections to adjacent buried utilities for each facility. Two buildings would be demolished on Hill AFB in support of the Air Force's physical plant strategy, which calls for reducing net facility footprint by 20 percent between 2006 and 2020 by demolishing surplus and inefficient facilities.

Alternative C: Construct a New EPU Overhaul Complex South of the LMTA Access Road

The only difference between Alternative C and the proposed action would be its location.

Alternative D: Construct a New EPU Overhaul Complex on Hill AFB

Hill AFB planners and engineers considered locations for constructing a new EPU overhaul complex on Hill AFB. Due to the chemical and physical properties of hydrazine (toxic if inhaled, extremely destructive to the tissue of the mucous membranes and upper respiratory tract, vapor can accumulate to form explosive concentrations), Hill AFB requires a 300-foot buffer zone around hydrazine storage, handling, and operations. A location north of the Hill AFB golf course was evaluated, but the required 300-foot buffer zone could not be achieved in relation to

existing structures and security training areas. No location in the Hill AFB industrial use zone to the west of the airfield would provide a 300-foot buffer zone.

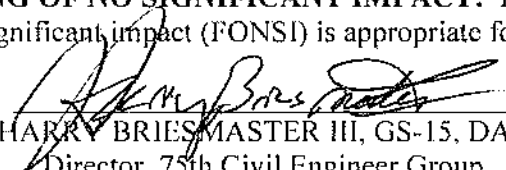
5. SUMMARY OF ANTICIPATED ENVIRONMENTAL EFFECTS:

This section only applies to the alternatives considered in detail.

Issue	Alternative A No Action	Alternative B Proposed Action	Alternative C Construct South of LMTA Access Road
Air Quality	Existing degreasing operations emit four tons per year of volatile organic compounds, but would be greatly reduced if dipping operations change to wiping.	Qualified asbestos abatement contractors would prevent impacts to air quality. Construction equipment would create temporary emissions. Fugitive dust would be controlled. Degreasing operations would emit four tons per year of volatile organic compounds, or much less if wiping were to be implemented. Additional commuting and delivery vehicle emissions would exist. Sub-structure vapor barriers would protect indoor air quality. Conformity with the Clean Air Act was demonstrated.	Same as for the proposed action.
Solid and Hazardous Waste	Regulated solid wastes and regulated liquids are treated and/or disposed in accordance with applicable regulations.	If contaminated building materials, soils or pavements are identified, they would be properly handled during the demolition and construction process. Operational activities would generate the same types of waste as the existing facilities.	Same as for the proposed action.
Biological Resources	The 20-acre vacant site would remain in its current, somewhat degraded condition.	Mule deer and rodents would be displaced. Management for loss of habitat would be accomplished by improving adjacent habitat uphill (north) of the proposed action.	Same as for the proposed action.
Water Quality	Good housekeeping measures and other best management practices are being followed.	During construction and operations, water quality would be protected by implementing stormwater management practices. Precipitation from the 95th percentile, 24 hour storm event would be retained on site. Contamination of shallow groundwater may exist beneath portions of the proposed action. If groundwater or saturated soils were to be contacted, activities would be halted and Hill AFB remedial managers would be contacted. Good housekeeping measures and other best management practices would be incorporated into facility design and operations.	Same as for the proposed action.

6. **FINDING OF NO SIGNIFICANT IMPACT:** Based on the above considerations, a finding of no significant impact (FONSI) is appropriate for this assessment.

Approved by:


HARRY BRIESMASTER III, GS-15, DAF
Director, 75th Civil Engineer Group

Date: 18 Mar 2014